



Western States Petroleum Association
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Executive Vice President and COO

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Mike Waugh, Reza Lorestany, Aubrey Sideco, Carolyn Lozo, Michelle Werner
California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812
Via electronic mail

Re: **WSPA Comments Regarding ARB's December 2 LCFS Workshop**

Dear ARB staff,

The Western States Petroleum Association (WSPA) is a non-profit trade organization representing twenty-eight companies that explore for, produce, refine, distribute and market petroleum, petroleum products, natural gas and other energy products in California and five other western states.

WSPA's comments address not only the material provided at ARB's December 2 LCFS workshop, but also reemphasize several comments contained in our November 19 letter. We will also be sending to ARB in January our comments on the Energy Economy Ratios in the draft regulation.

We also reserve the right to provide further comments on the handling of conventional and unconventional crudes under the yet-to-be-adopted LCFS

In general we are disappointed with ARB's apparent decision to ignore or disagree with our prior comments without an attempt to discuss the issues with our industry – the industry which is impacted the most and is directly responsible for implementation of the LCFS program.

We are approximately one month away from submittal of the ARB documents to OAL and our overall impression is that there is a huge number of open or only partially addressed facets of the program. It seems apparent ARB is going to hold the adoption hearing in March; regardless of the state of the regulation.

As with the majority of ARB regulations over the years, the agency appears poised to adopt a shell of a regulation with the hope that changes, many of them potentially very significant, can be accomplished in future years.

Since this is the situation we are faced with, WSPA feels it is imperative that ARB include, at a minimum in the Resolution but preferably in the regulatory language, a clear description of a mandatory periodic program review.

This review would be conducted, for example, every three years and there would be an opportunity for staff and stakeholders (via a public process) to recommend revisions to the Board for certain elements of the program if necessary. We will be providing more detail shortly on our recommendations for the content and process for this important program review.

One of the elements we find particularly lacking is an adequate economic analysis of the program. We have appended our contractor's initial overview comments on this issue.

WSPA finds the economic analysis inadequate, and we question the cost assumptions and conclusions. Since the LCFS is deemed to be an "early action" measure under the AB32 program, this means it must be found to be technologically feasible and cost-effective per Health and Safety Code directives.

Cost-effectiveness of the program is critical – not only for the state of California but also in case the program is applied elsewhere within the nation or internationally. A program that is devised in such a manner as to be uneconomic and unworkable will not only encumber and risk the viability of California's transportation fuel system, but will have the same impact on any area that adopts it.

I want to reiterate WSPA's fundamental concern that California and its citizens will be negatively impacted by the anticipated unpleasant consequences on the state's transportation fuel system as a result of implementation of the LCFS.

The ARB must acknowledge the importance of ensuring adequate and reliable energy supplies, including transportation fuels, during the implementation of the LCFS. In addition, ARB needs to work with other California agencies such as the CEC to ensure that the state's transportation fuel supply demands will be met, and there will not be a resulting negative economic impact on consumers and businesses.

We recognize that transportation fuels, the vehicles that use the fuels, and the vehicle-miles-traveled (VMT) all play a part in contributing a piece of the "GHG pie." This sector, however, is also very important to ensuring the economic health and welfare of the state and its citizens, and deserves careful thought, the use of sound science and special planning in the implementation of a LCFS program.

As always, WSPA is happy to discuss our comments and we welcome an opportunity to discuss staff's responses to our earlier comments and concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Cathie A. Boyd". The signature is fluid and cursive, with the first name "Cathie" and last name "Boyd" being the most legible parts.

WESTERN STATES PETROLEUM ASSOCIATION COMMENTS
ON CARB'S LCFS PROGRAM
DECEMBER 19, 2008

ECONOMIC ANALYSIS

The issues of life cycle analysis, economic analysis, periodic program review, and technical feasibility are interconnected. Ensuring that a quality economic analysis is performed is a key to the development of a successful LCFS program.

First, WSPA would like to register our disappointment with the LCFS process relative to economic and environmental issues. ARB never convened the Environment & Economic Working Group.

ARB should have worked on the initiation of the economic & environmental analyses on a parallel track with the other workgroups. At a minimum, the workgroup could have engaged in a discussion of and potential agreement on the appropriate methodology and process.

Instead, as often occurs at ARB, the analysis is being rushed at the end of the staff LCFS program development and is therefore inadequate. Moreover, it appears from the material shared to date that ARB has reached conclusions on the economic impacts of the LCFS program without first conducting a thorough analysis.

In addition, ARB staff is not sufficiently trained in economics in order to perform an appropriate analysis. We believe a sophisticated economist or team of economists is needed to assess the LCFS.

In particular, staff does not have the capability to make a critical evaluation of an outside feasibility study, nor do they have the engineering research capability to evaluate whether some speculative processing technology can be implemented within a given cost estimate. For example, WSPA and other stakeholders need to see the underlying work that leads to ARB's assumption that low carbon fuels that do not now exist will be available at lower costs than conventional fuels.

WSPA points out that recent studies indicate the federal program capital cost is potentially \$11 trillion, so we question the very low estimates provided by ARB. We note that ARB's outline doesn't include new alternative fuel infrastructure expenses or the cost of alternative fuel plants.

Apart from Jud Jaffe's comments in our Appendix, ARB's initial economic analysis for the LCFS rule should include the following:

- Final LCA numbers prior to completion of the economic analysis;
- Identification of tonnage reductions that are attributable to the gasoline program, and reductions attributable to the diesel program;
- Cost estimates (in \$/ton) for each of these two sets of reductions, for each year of the program;
- Comparable estimates for cost of reductions if there was only one combined gasoline-diesel reduction requirement;

- For the proposed reductions for the first three years of the program before the first review, ARB must determine whether the proposed reductions can be achieved with currently available materials and technologies, and the cost estimates based upon those materials and technologies;
- For each periodic review, necessary adjustments to life cycle analysis are made, and the upcoming four years' proposed reductions are tested for feasibility based upon then currently available materials and technologies.

ENVIRONMENTAL ANALYSIS

I. Multimedia Evaluation Now Required Under Health & Safety Code § 43830.8

Starting in 1999, the California legislature required multimedia evaluations in order to obtain a full and independent assessment of the range of potential environmental impacts of any newly proposed fuel regulations across all media, including air, water, and soil.

At a minimum, all multimedia evaluations must address, among other items: “Emissions of air pollutants, including ozone forming compounds, particulate matter, toxic air contaminants, and *greenhouse gases*.” Health & Safety Code, § 43830.8(c)(1) (emphasis added). By its terms, the required multimedia evaluation applies to the greenhouse gas (GHG) impacts of fuel regulations, including the LCFS which is primarily designed to reduce GHG emissions.

Under the detailed provisions of Health & Safety Code § 43830.8, ARB must conduct a multimedia evaluation before adopting a motor vehicle fuel regulation such as the low-carbon fuel standard (LCFS). Specifically, under Health & Safety Code § 43830.8, ARB may not adopt any regulation that establishes a specification for motor vehicle fuel unless that regulation, and a multimedia evaluation conducted by affected agencies and coordinated by ARB, are reviewed by the independent California Environmental Policy Council (“Council”).

ARB is permitted to adopt a regulation without a multimedia analysis only if following an initial evaluation of the proposed regulations, the Council “conclusively determines that the regulation will not have any significant adverse impact on public health or the environment.” *Id.* at § 43830.8(i). The Council has not made this conclusive determination regarding the LCFS and has no basis for making such a determination.

II. The LCFS Should be Subject to a Multimedia Evaluation

ARB staff currently proposes to avoid the California statutory requirements for performing a multimedia analysis by asserting that the LCFS is not a fuel “specification.” ARB Presentation, *Requirements for Multimedia Evaluation and the Low Carbon Fuel Standard (LCFS)* (October 15, 2008) (“*LCFS Multimedia Presentation*”), at p. 4. According to ARB staff, the requirement to reduce carbon intensity does not establish a motor vehicle fuel “specification,” because such a requirement is not a “detailed description of the design and materials used to make something.” *Id.* at p. 5 (citing Oxford American Dictionary).

However, carbon intensity is a criterion or “specification” to which motor vehicle fuels must comply. The LCFS will change specifications of California reformulated gasoline and diesel and will require fuel additives to be added or taken out and new fuels to be used statewide. ARB Draft LCFS Regulation, Section 95422 (“[T]he transportation gasoline and diesel fuel for which a regulated party is responsible in each calendar year must meet the average carbon intensity standards set forth in this section . . .”).

ARB is not permitted to avoid the statutory requirements under Health and Safety Code, § 43830.8 to perform a multimedia evaluation by simply labeling the LCFS a “standard” as opposed to a “specification.” Any attempt to do so is contrary to the legislative mandate in AB 32 that ARB must comply with existing fuel regulations in satisfying its obligations under AB 32. Health & Safety Code, § 38598(b) (“Nothing in this division shall relieve any state entity of its legal obligations to comply with existing law or regulations.”).

ARB staff promises that ARB will perform a multimedia analysis if and when ARB either adopts a new fuel specification (such as one for biodiesel or biobutanol) or amends an existing fuel specification (such as natural gas or E85). *LCFS Multimedia Presentation*, at 9. According to ARB, in order to implement the “spirit” of Health and Safety Code § 43830.8, “[ARB] staff will conduct a functionally equivalent assessment for the LCFS rulemaking.” *Id.* at 8.

Such an approach fails to address upfront the adverse environmental impacts that are associated with producing fuels that can meet the carbon intensity requirements under the LCFS. Such an approach also ignores the possibility that ARB may never conduct a multimedia evaluation of all of the LCFS fuels pathways. It completely ignores the possible interaction between alternative fuels pathways that might produce cumulative impacts.

Examples of multimedia impacts are described in the University of California Study, which concluded that increased biofuel production will result in adverse water and land use impacts. *University of California Study: A Low Carbon Fuel Standard for California* (“UC Study”):

- *Part 2: Policy Analysis*, at 74: Noting the numerous sustainability issues associated with biofuels, such as degraded air and water quality, soil erosion, loss of biodiversity, loss of wilderness and natural habitats, increased concentration of land holdings and land appropriation.
- *Part 1: Technical Analysis*, at 72: “Transportation fuels have environmental impacts beyond greenhouse gas emissions [that include] land-use change, ground- and surface-water contamination, criteria and toxic combustion emissions, environmental impacts of perturbations to the complex nitrogen cycle, soil erosion and loss of soil nutrients, pesticides, water depletion, and environmental impacts of electricity.”
- *Part 1: Technical Analysis*, at 8-9: “[A]ir quality, water use and quality, loss of habitat, soil erosion . . . will become more important if biofuel production and use expand . . .”
- *Part 2: Policy Analysis*, at 75: “We also recommend that the state conduct independent periodic assessments of the sustainability impacts of the LCFS policy.”

More recently, ARB prepared a California Environmental Quality Act (CEQA) Functionally Equivalent Document that analyzed the potential adverse environmental impacts of the Proposed Scoping Plan. *CEQA Evaluation of Environmental Impacts, ARB Climate Change Proposed Scoping Plan, Volume III, Appendix J (“FED”)*. In the *FED*, ARB highlighted the impacts to air and water quality, and land use planning associated with the biofuels pathway of the LCFS.

Specifically, ARB concluded that production of food crop for biofuels may create new emission sources for acquiring feedstock, increase water demand, and impact water quality given increased use of chemicals and fertilizers to grow crops. *Id.* at J-28, J-66. In addition, ARB determined that there are “potential land resource issues associated with the biofuels pathways, such as conservation of forestlands, pastureland, and food or fiber to fuel crops.” *Id.* at J-54.

Further, in each of the sections discussing the impact of the LCFS on a particular media (*i.e.*, air, water and land), ARB determined that additional analysis of these issues will be required as part of the LCFS regulatory process:

- *FED*, at J-27: “The LCFS regulatory proposal will contain a more detailed analysis of the potential air quality impacts”;
- *FED*, at J-66, J-67, J-97: Noting that water quality and resources issues will be further discussed and analyzed in the LCFS regulatory development process;
- *FED*, at J-54: Stating that land resource issues associated with the use of biodiesel, ethanol and hydrogen “will be further evaluated in the LCFS regulatory development”;
- and,
- *FED*, at J-56: “[T]he potential impact of the loss of production of food and fiber may be significant, and would require further environmental analysis.”

Thus, it is clear that ARB has yet to sufficiently evaluate the environmental impacts associated with increased use of biofuels, and that further CEQA analysis is necessary as part of the LCFS regulatory process. However, the statutory requirement to comply with CEQA (Public Resources Code, § 21000 *et seq.*), and the regulation of fuels (Health and Safety Code, § 43830 *et seq.*) are separate and distinct.

Compliance with CEQA is therefore not a substitute for the statutory requirement to complete a multimedia evaluation when adopting a motor vehicle fuel specification, and any attempt by ARB to do so would be improper.

Although ARB has begun a multimedia evaluation for biofuels, and has completed such a limited evaluation for ethanol several years ago, other fuels that could comply with LCFS, such as hydrogen, biodiesel and natural gas have not undergone full multimedia evaluations. ARB will need to undertake multimedia evaluations for these remaining potential pathways to determine if any such fuel can qualify as an available pathway for compliance with the LCFS.

In addition, we question whether the earlier limited multimedia evaluation for ethanol needs further evaluation to incorporate other feedstock pathways and processing; beyond the singular assumptions made earlier.

III. Failure to Complete a Multimedia Evaluation Up Front Will Delay the Development of LCFS-Compliant Fuels

The proposed ARB staff approach to conducting multimedia evaluations after adoption of the LCFS will cause uncertainty. It will also hinder the development of the full range of LCFS-compliant fuels.

Specifically, uncertainty as to whether a fuel will satisfy a multimedia analysis will delay development of such fuels based on concerns about allocating any significant resources to the commercialization of a fuel that could ultimately fail such analysis. Likewise, the cost of developing fuels will increase if LCFS-compliant fuels are developed that ultimately fail to satisfy the requirements of a proper multimedia evaluation.

Thus, ARB should conduct multimedia evaluations *now* for all of the likely LCFS-compliant fuels in order to encourage investment in and development of a full and competitive range of such fuels. The deadline for implementing early action measures under AB 32, such as the LCFS, is fast approaching, and any delay in the development of LCFS-compliant fuels will further add to the many challenges and risks of implementing AB 32 successfully.

REVISED DRAFT LCFS REGULATION – DECEMBER VERSION

Section 95421. Standards

Baseline

WSPA companies first need additional clarity on what the actual baseline is. This baseline needs to be clearly established before the program begins in 2010. Our companies also need certainty well before compliance is required, so they can make plans for the future and be assured there won't be any stranded investments due to the program.

Section 95424.

(a) Regulated Parties

WSPA believes a workable LCFS requires the point of compliance for petroleum products and their blends be kept as close as possible to the point at which they are produced or imported. However, downstream blending of low carbon material with petroleum products will continue for the foreseeable future. This downstream blending makes it advantageous to tie the compliance obligation for a given quantity of product to those parties that have control over how it is blended.

WSPA recommends the current ARB proposal be modified to keep the compliance and reporting obligation at the production/import level to the extent possible. When title to a quantity of fuel is transferred to another producer/importer, that quantity of fuel should be treated as if it was part of the buyer's production/imports.

When title to a quantity of fuel is transferred to another party that is not a producer/importer as defined, the regulations should provide that that party will have the compliance requirements (including reporting) of a producer/importer. Note that the assignment of compliance obligation applies equally to petroleum products and to any renewable fuels with which they will be blended.

In addition, the alternative language currently included at (1)(C) and (2)(C) should be modified.

Should a seller wish to retain the compliance obligation for a quantity of fuel, there is no need for a contractual agreement between the parties; the seller should only be required to notify the buyer of its decision to retain the obligation. Similarly, there is no need to notify the buyer of the CI of the product, since the buyer assumes no compliance obligation.

Section 95426.

(b)(2) Method 2A – Customized Lookup Table Values

WSPA believes there should be a mechanism provided for small incremental differences to be counted into the process without Method 2A. In order to incorporate the most accurate data available, ARB should revise the lookup table values as part of the periodic program review process. This will likely mean more branches will be required for the lookup table for renewable fuel pathways.

APPENDIX 1



To: California Air Resources Board
From: Judson Jaffe, Vice President, Analysis Group, Inc.
Date: December 17, 2008
Re: Comments on the Low-Carbon Fuel Standard Proposed Economic Analysis

These comments briefly address three issues that CARB needs to consider carefully in performing its economic analysis of the Low-Carbon Fuel Standard (LCFS):

- Uncertainty
- The appropriate baseline against which to measure costs
- Alternative scenarios necessary to understand the cost of the LCFS

The economic impacts of the LCFS could be among the most significant of any element of CARB's AB 32 Scoping Plan. Moreover, it is possible that adjustments to the design of the LCFS could significantly reduce its cost and the economic risks that it poses. Therefore, sound and comprehensive economic analysis is immensely important in order to inform CARB's decisions in implementing the LCFS.

1. Uncertainty

Developments in transportation fuel markets over the past few months underscore the tremendous uncertainty associated with the cost of regulations such as the LCFS. While CARB's staff currently expects the cost of low-carbon fuels to be effectively comparable to that of conventional fuels, there is a substantial probability that this will not be the case. Changes in the cost of conventional fuels or in the cost of low-carbon fuels could easily alter the annual cost of meeting the LCFS target by billions of dollars.

Importantly, the implications of this uncertainty for the cost of the LCFS are not symmetric. If conventional fuels turn out to be less costly or if low-carbon fuels turn out to be more costly than anticipated, then the LCFS may be far more costly than CARB projects. On the other hand, if conventional fuels turn out to be more costly or if low-carbon fuels turn out to be less costly than anticipated, then the LCFS's target may be met *even without* the LCFS in place. That is, in this latter scenario, any "savings" associated with the use of low-carbon fuels may be realized regardless of whether or not the LCFS is implemented, such that the LCFS would have no incremental economic

impact. As a result, the cost of the LCFS in the former scenario *will not be* counterbalanced by cost savings in the latter scenario.

In essence, the LCFS may require something that would occur anyway if low-carbon fuels turn out to be as inexpensive as (or even less expensive than) CARB anticipates. But, the LCFS may lock California in to the use of costly low-carbon fuels if CARB's projections turn out to be wrong. It is important for CARB to analyze the implications of this asymmetric risk for the "expected value" of the LCFS program's cost — that is, for the average cost of the LCFS program taking into account all possible future scenarios.

In assessing uncertainty, it is important that CARB evaluate the extent to which costs may differ from its primary projection, and the likelihood of such scenarios. This requires considering the underlying determinants of the cost of the LCFS (e.g., the cost of conventional and low-carbon fuels) and the uncertainty surrounding those determinants. CARB should present the findings from numerous scenarios that appropriately reflect the degree of uncertainty in these key determinants of the cost of the LCFS.

In response to peer review comments on its economic analysis of the Scoping Plan, CARB explored uncertainty in its estimates by simply *assuming* that costs and savings from the Scoping Plan might differ by particular arbitrary percentages from its primary projections. CARB did nothing to assess how likely such deviations would be, and whether deviations could be even greater than CARB assumed. Therefore, CARB's analysis did nothing to inform policymakers about the true economic risks associated with the particular regulations that it has proposed. Its analysis would be akin to evaluating the value of a corporate bond by *assuming* a particular likelihood of default, rather than by actually evaluating the likelihood of such a default based on the economic condition of the specific company in question.

LCFS places a rigid requirement on the transportation fuel market that could prove to be extremely costly under certain future scenarios if low-cost low-carbon fuels do not emerge in sufficient supply. Thus, a critical issue that CARB will need to address is whether to adopt particular cost-containment mechanisms and, if so, what kind of mechanisms it should adopt.¹ To help inform CARB's decisions with respect to these issues, it is important for an economic analysis of the LCFS to assess the likelihood of those scenarios in which costs are higher than expected, and to assess how much higher costs could be. To offer an analogy, one cannot make a reasoned decision about whether or not to purchase flood insurance without considering the likelihood of a flood and the extent of property damage that would be caused by such a flood. Likewise, CARB cannot make a reasoned decision about whether to adopt a cost-containment mechanism, and about the kind of mechanism to adopt, without a rigorous assessment of the uncertainties introduced by the LCFS.

2. The Appropriate Baseline Against Which to Measure Costs

A key issue in the measurement of the LCFS's economic impact is the determination of an appropriate baseline of how transportation fuel markets would evolve in the absence of the LCFS. In particular, it is critical that this baseline be consistent with CARB's projections of fuel prices. That is, if CARB believes that low-carbon fuels will be less costly than, or as costly as, conventional fuels even in the

¹ CARB could adopt one or more of a variety of cost-containment mechanisms. As just one example, CARB could codify a periodic program review with clearly established conditions for making adjustments to program design and/or targets.

absence of the LCFS, the baseline should reflect that low-carbon fuels would be adopted even in the absence of the LCFS. Alternatively, if CARB does not believe this would be an appropriate baseline, it needs to offer a rigorous assessment of why low-carbon fuels would not be adopted in the baseline even if they are less costly than conventional fuels.

As was mentioned above, if low-carbon fuels would be adopted in the baseline in the event that they are less costly than conventional fuels, this has critical implications for the cost of the LCFS. In such a case, the LCFS would have no economic impact if low-carbon fuels are less costly than conventional fuels, whereas it would lock California in to the use of costly fuels if low-carbon fuels turn out to be more costly than expected.

3. Alternative Scenarios Necessary to Understand the Cost of the LCFS

Assessing the cost of the LCFS relative to the business-as-usual baseline should be a key element of CARB's analysis. However, CARB should also measure the cost of the LCFS relative to at least two alternative scenarios: a less stringent carbon-intensity requirement, and achieving comparable emission reductions through an economy-wide cap-and-trade system.

It is my understanding that the specific carbon intensity required under the LCFS was not selected based on the result of an economic analysis. Therefore, both CARB and Californians should be made aware of the incremental cost of meeting that particular carbon-intensity target, relative to the cost of meeting slightly less stringent carbon-intensity targets. This is particularly relevant because it is difficult to argue that the transformative effect of the LCFS will be undermined if the LCFS requires, for example, a 9% reduction in the carbon-intensity of fuel rather than a 10% reduction. If slight adjustments to the carbon-intensity target can significantly affect the LCFS's cost without affecting its transformative impact on transportation fuel markets, both CARB and Californians more broadly should be made aware of that.

Similarly, even if the LCFS were not implemented, AB 32's 2020 emissions target would still be met as a result of the economy-wide cap-and-trade system that CARB is proposing to implement under the Scoping Plan. Therefore, CARB should evaluate the cost of implementing the LCFS relative to an alternative scenario in which LCFS is not implemented and the necessary emission reductions are achieved through the cap-and-trade program. While the LCFS clearly has policy objectives beyond just GHG reductions, given the ability to achieve the GHG reductions through reliance on the cap-and-trade system alone, CARB should understand the cost of achieving the LCFS's additional objectives.