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FROM: The California Biodiesel Alliance

RE: Comments and Recommendations Regarding the Low Carbon Fuel Standard

DATE: May 8, 2008

The California Biodiesel Alliance applauds the effort made by the Air Resources Board (ARB) to continually engage stakeholders and solicit their input as the ARB develops the Low Carbon Fuel Standard (LCFS) regulations. In general, the California Biodiesel Alliance strongly supports the goals of the LCFS and many of the concepts developed to date by the ARB staff that was presented in the Proposed Concept Outline for the LCFS Regulations in March 2008 and at the LCFS workshop on March 25, 2008. That said the California Biodiesel Alliance as a stakeholder group does have specific comments and recommendations regarding LCFS and the Proposed Concept Outline for the LCFS Regulations; per your request, these are provided for the record in this memorandum.

LCFS Targets and Obligated Parties

The California Biodiesel Alliance (CBA) strongly supports a separate declining carbon intensity standard determined separately for gasoline and diesel. The rationale for our position is based on:

- Diesel consumption in California since 2000 has grown at a faster rate than gasoline consumption. Data for this available from the California Energy Commission (CEC)
- With the introduction of diesel cars and light trucks in California, diesel consumption will grow at an even faster rate. CEC projections on future diesel and gasoline consumption as provided in the AB1007 Alternative Fuels Plan shows the accelerated growth trajectory of diesel relative to gasoline
- Since diesel engines are fundamentally different than gasoline and require a different fuel, LCFS needs to stimulate the emergence and growth of new fuel technologies specifically for diesel engines

CBA strongly disagrees with certain stakeholders who are recommending that diesel providers should receive credit for supplying increased volumes of diesel resulting in the displacement of gasoline because diesel engines are inherently more fuel efficient, thereby reducing GHG intensity of the overall passenger vehicle fuel pool. While improved fuel efficiency is a worthy goal, this is separate and independent from LCFS. LCFS is very simply only about reducing carbon intensity in the fuels themselves.

CBA strongly supports the current ARB staff position that all California refiners and importers of petroleum-based finished fuels, *regardless of their size or daily/annual volumes of fuel output or imports*, shall be subject to LCFS requirements.



Fuel Pathways

As shown in Appendix B of the Proposed Concept Outline for LCFS (March 2008), there are a very limited number of pathways currently being considered by ARB Staff for carbon accounting / scoring for use for compliance with LCFS. The ARB staff is already aware there can be a great deal of variability in the carbon intensity for biodiesel fuel depending on the feedstock used to produce the biodiesel and the origin of that feedstock. Additionally, because of using feedstock types that do not result in land displacement (i.e. inedible animal fats or recycled cooking oils) or because the origin of the feedstock and/or fuel is California, some types of biodiesel may be considered ultra-low carbon fuels. Furthermore, the nature of the biodiesel industry is such that biodiesel producers at times need to change feedstocks in order to remain economically viable and with respect to LCFS, should not be penalized because they use a readily available feedstock that has not been included as pathway in LCFS and thus does not have a default value for LCFS blendstock average fuel carbon intensity (which would necessitate going through the expense and time to document a new pathway and have this reviewed and approved by ARB). Lastly, it is important to provide enough pathways to distinguish fuel produced in California using feedstocks provided or grown within California because: 1) there can be a material difference in carbon emissions for this compared to transportation of feedstocks and/or fuel to California and 2) it is a matter of California state policy (per Executive Order S-06-06) to encourage the production of alternative fuels and related feedstocks within California. Thus CBA recommends that ARB provide compliance pathways for biodiesel made from all of the major types of feedstock and account for differences in origination point of the feedstocks and where the biodiesel is produced. CBA recommends the following biodiesel pathways be utilized for calculating carbon intensities for LCFS compliance for diesel fuel:

<u>FEEDSTOCK</u>	<u>PROCESS</u>	<u>ORIGIN OF FEEDSTOCK</u>	<u>ORIGIN OF THE BIODIESEL FUEL</u>
Soybean Oil	Esterification	Midwest U.S.	Midwest U.S.
Soybean Oil	Esterification	South America	South America
Soybean Oil	Esterification	Midwest U.S.	California
Canola / Rapeseed/ Mustard Seed Oil	Esterification	Canada	Canada
Canola or Mustard Seed Oil	Esterification	Midwest / Plains States U.S. / Canada	Midwest / Plains States U.S.
Canola or Mustard Seed Oil	Esterification	Midwest / Plains States U.S. / Canada	California
Canola or Mustard Seed Oil	Esterification	California	California
Palm Oil / Olein	Esterification	South East Asia (Indonesia and Malaysia)	South East Asia (Indonesia & Malaysia)
Palm Oil / Olein	Esterification	South East Asia (Indonesia and Malaysia)	California



Jatropha Oil	Esterification	South East Asia (Indonesia & Malaysia)	California
Jatropha Oil	Esterification	South America	California
Jatropha Oil	Esterification	South East Asia (Indonesia and Malaysia)	South East Asia (Indonesia & Malaysia)
Jatropha Oil	Esterification	South America	South America
Inedible Animal Fats	Esterification	California	California
Inedible Animal Fats	Esterification	Midwest or Southeast U.S.	California
Inedible Animal Fats	Esterification	Midwest or Southeast U.S.	Midwest or Southeast U.S.
Recycled Cooking Oils / Greases	Esterification	California	California
Recycled Cooking Oils / Greases	Esterification	Midwest or Southeast U.S.	California
Recycled Cooking Oils / Greases	Esterification	Midwest or Southeast U.S.	Midwest or Southeast U.S.

Fuel Standards

Compliance Schedule / Path – CBA is opposed to a back-end loaded or “Accelerating” compliance schedule/ path that require only minimal reductions in carbon intensity in the initial years of LCFS (i.e. 2010-2013) with the reductions accelerating in the later years to meet the 10% target in 2020. This approach would do little to encourage and stimulate the development of alternative fuel technologies for use in diesel engines, the production of alternative fuels or the development of alternative fuels infrastructure (i.e. blending at the bulk fuel terminals) in the next five years. It is important to recognize that all of these require extended timeframes, i.e. it takes approximately 2 to 4 years to develop and complete a biofuels production facility or a minimum of 3 to 5 years to take a new alternative fuel from lab development to completion of field trials and pilot scale production. The financial community needs to see tangible market drivers such as LCFS requirements in the next 3 to 5 years, not in 7 to 12 years, to make investment commitments over the next several years for alternative fuels development and deployment.

Thus CBA supports at least a linear compliance schedule / path or better yet, a compliance schedule / path that requires somewhat more significant and meaningful reductions in carbon intensity in the 2010 to 2014 timeframe that can then flatten out a bit in the 2015 to 2017 before resuming more accelerated reduction in the 2018 to 2020 period (this was referred to as the “Rationalized Compliance Path” in the Low Carbon Fuel Standard Policy and Regulatory Development working group meeting on December 20, 2007).

For the diesel fuel pool, biodiesel and biomass-based diesel offer substantial reductions in carbon intensity and can be made available in California on a large-scale basis immediately or in the very near future (i.e. within 2 years). Indeed some forms of biodiesel and biomass-based diesel such as those made solely from inedible animal fats, recycled cooking oil or from inedible crops such as Jatropha or Algae cultivated on currently fallow land may have sufficient carbon intensity reductions that they can be considered ultra-low carbon fuels.



Also, there is no reason why the diesel fuel pool cannot have a compliance schedule that is different than the compliance schedule for gasoline given the current and near term availability of alternative fuels for the diesel fuel pool such as biodiesel and renewable diesel that offer significant carbon reductions compared to corn-based ethanol (with all of its land use impact and other issues) which is the only large scale compliance pathway currently available (and most probably for the next five years) for gasoline.

Applications / Vehicle types re: Biodiesel / Biomass-based Diesel – In table 2.3 of the Proposed Concept Outline for LCFS (March 2008), light duty, medium duty and heavy duty vehicles are considered the correct application and vehicle types for biodiesel/ biomass-based diesel. While CBA agrees with this, CBA would like to recommend the inclusion of off road transportation and equipment, including stationary equipment since these currently run on diesel and can utilize biodiesel or biomass-diesel with little or no modification. How will obligated parties determine, track and report the volumes of fuel used for the various applications? Will ARB use data from the Department of Motor Vehicles and other state agencies to determine the percentage of vehicles that are light-duty, medium duty and heavy duty and then apply these percentages to the total volume of biodiesel/biomass-based diesel blends introduced into the market by obligated parties?

Volume Obligation for Ultra-Low Carbon Fuel – CBA strongly supports the inclusion of a volumetric obligation or requirement for Ultra Low Carbon Fuel (ULCF) for each of the gasoline and diesel fuel pools. CBA recommends an approach where at either a certain point in time, which may differ for ULCF requirements for diesel versus gasoline (i.e. the ULCF requirement for diesel may begin as early 2010 or 2001 if alternative fuels that meet ULCF definitions are available at that time) a certain minimum percentage of all transportation fuels should be ULCF and that the ULCF percentage should increase over time, i.e. 3% in 2014, 6% in 2016, 10% in 2018 and 15% in 2020. The key to determining what year the ULCF requirement becomes active is the viability of alternative fuels that meet the ULCF definition

With regards to what will be defined as a ULCF, CBA recommends focusing on the alternative fuel itself rather than a applying a ULCF definition to a blended fuel. To be considered a ULCF, an alternative fuel must contribute towards a further reduction in the AFCEI value for the primary fuel by some additional percentage in the applicable year. As an example for the diesel fuel pool, if the standard AFCEI for diesel in 2012 is 69, then a ULCF alternative fuel would have produce an AFCEI for diesel in 2012 of 64.17, which is an additional 7% reduction in the AFCEI as originally required by LCFS. Likewise, if the standard AFCEI for diesel in 2016 is 66, then using a 7% additional AFCEI reduction the alternative fuel would have produce an AFCEI for diesel in 2016 of 61.38 in order for the alternative fuel to be considered a ULCF. In each of these examples using a 7% incremental AFCEI reduction, the ULCF would help bring the blended fuel very close to or below the 2020 10% reduction target within a significantly earlier time frame. Furthermore, CBA would like to propose that a ULCF be defined as an alternative fuel that produces at least a 50 percent reduction in lifecycle GHG emissions compared to the LCFS baseline transportation fuels GHG emissions for 2006.

In light of the potential that there may be one or more ULCF options for one fuel category but not for the other or that these may become available at different times for each fuel category (i.e. gasoline versus diesel), CBA recommends that the ULCF requirement be applied separately for gasoline and diesel, and that the year and volume requirement thresholds that kick off the ULCF requirement should be different for each fuel category (i.e. gasoline versus diesel). Given the potential for the difference in the ULCF implementation timeline for the different fuel categories and in light of the need to incentivize the introduction of ULCFs for fundamentally different engine technologies, obligated parties should not be allowed to accumulate excess ULCF credits for one fuel category and apply these to another fuel category (i.e.



obligated parties should not be allowed to accumulate excess gasoline ULCF credits and apply these to diesel ULCF requirements or vice versa).

Compliance and Enforcement

Obligated Parties – CBA strongly supports the notion that obligated parties should include all producers, providers and importers of diesel fuels regardless of their size or the size of their operations.

Options for Compliance – CBA recommends that LCFS require an obligated producer or importer to provide minimum volume of fuel that meets the respective standard so that the AFCI/XD reported is less than or equal to the AFCI/reference. This minimum volume should be expressed as some minimum percentage (i.e. 15 or 20%) of the obligated producer's or importer's annual total volume in California.

Point of Regulation – CBA recommends that for liquid fuels, alternative or conventional, the point of regulation should be the point at which the liquid fuel is first produced or imported.

Deficits / Non-Compliance – CBA recommends the following: (i) if an obligated party has an LCFS credit deficit for a given compliance period, the obligated party must clear the deficit by the end of the next compliance period, which should be a maximum of 1 year, (ii) non-compliance cannot be remedied by payment of a fee, and (iii) non-compliance shall result in severe penalties that include fines for each day of non-compliance and the size of fines shall be tied to the magnitude of non-compliance and the size of the obligated party (the theory being that large companies certainly have the resources for compliance and really have no excuse for non-compliance).

It is not clear if the ARB staff is considering some maximum amount that an obligated party can have in deficit/non-compliance. Can an obligated party miss their entire LCFS requirement for a year or should there be some limit how much an obligated party can have in deficit / non-compliance? CBA recommends the latter. Should there be additional civil penalties if the obligated party does not achieve some minimal level of LCFS compliance?

Reporting Requirements – CBA recommends that the LCFS reporting frequency should no more than once per quarter. CBA also recommends a longer reporting period for smaller obligated parties, although the size threshold for this would need to be determined (perhaps anyone producing less than 5 mil gallons per year).

Tracking Biofuels – In Table 3.1 of the Proposed Concept Outline for the LCFS Regulations, 'Sustainability Information' is listed as one of the reporting requirements for Biodiesel/Biomass-based diesel. CBA would like additional information as to what type of information or what specifically must be reported for the requirements re: 'Sustainability Information'.

According to the Proposed Concept Outline for the LCFS Regulations, "Facilities that process multiple feedstocks must provide additional information to segregate fuel batches". CBA would like more information as to what this means and entails. Does this refer to physical segregation of each type of biodiesel / biomass-based diesel made from a specific type of feedstock? What is required of a biodiesel producer that produces fuel from multiple types of feedstock (i.e. the fuel produced is made from a combination of animal fats, recycled cooking oils and soybean oil)? What happens as the feedstock mix changes, which may occur as often as a couple times per week?

According to the Proposed Concept Outline for the LCFS Regulations, "ARB will develop biofuels facility specific default values for LCFS." CBA would like additional information regarding as to what this means and entails. Does this mean each biofuels facility will have its own BAFCI/i value? Does this apply to biofuels productions facilities across the board regardless of its location? If so, what about biofuels produced outside of the U.S.? How will the BACFI/i value for a biofuels facility be calculated?



Recordkeeping – According to the Proposed Concept Outline for the LCFS Regulations, “All records and documentation are subject to ARB or 3rd party auditing and verification.” CBA strongly requests / recommends that any auditing or verification of an obligated party’s LCFS records conducted by ARB or its designated 3rd party be done so at the sole cost of ARB or other designated regulatory body.

LCFS Credits

CBA supports the notion of allowing obligated parties to accumulate credits for demonstrating ‘over-compliance with LCFS carbon intensity reduction requirements. In general CBA supports the proposal that such LCFS credits can be traded in some form of LCFS credit market. That said, CBA’s support for LCFS credits and related trading is conditional -- provided such credits are awarded solely for ‘over-compliance’ as it relates to fuels sold in California and an obligated party will not be allowed to utilize carbon intensity reductions generated from fuels sold outside California (i.e. if an obligated party cannot claim that carbon reduction from selling biodiesel blends from its operation in other states qualify as LCFS credits).

LCFS credit generation and trading allows for the possibility that an obligated party may never utilize / market low carbon fuels and simply chose to comply with LCFS requirements by buying credits. CBA believes this is against the intent of Executive Order S-01-07 that created LCFS – namely “...fuel providers in California ensure that the mix of fuel they sell into the California market meet, on average, a declining standard for GHG emissions measured in CO₂ equivalent gram per unit of fuel energy sold...” CBA recommends that LCFS require obligated fuel providers in California to physically provide some minimum level of volumetric content of low carbon fuel (i.e. 10% of an obligated party’s annual volume must be fuel that provides a reduction in carbon intensity per LCFS requirements versus the 2006 baseline).

The Proposed Concept Outline for the LCFS Regulations states that, “For each fuel, credits are determined separately for the portion of the fuel used in light-duty and heavy duty applications, with the total credit as the sum of the two.” What about medium duty and off-road applications and how will these be accounted for in the credit scoring? As ARB is aware, biodiesel/biomass-based diesel blends may be used in light duty, medium duty, heavy duty and off-road applications. As these blends are sold, there is currently no tracking or accounting of how much fuel is used for a given application. How will obligated parties determine, track and report the volumes of fuel used for the various applications? Will ARB use data from the Department of Motor Vehicles and other state agencies to determine the percentage of vehicles that are light-duty, medium duty and heavy duty and then apply these percentages to the total volume of biodiesel/biomass-based diesel blends introduced into the market by obligated parties?

Credit Acquisition and Trading – CBA supports allowing external, non-obligated third parties to purchase and trade LCFS credits. CBA feels that the participation in LCFS credit trading by non-obligated third parties will create liquidity for LCFS obligated parties who may fall into temporary non-compliance. CBA acknowledges the possibility raised by other stakeholders that 3rd parties may ‘buy up’ available LCFS credit and thus drive up the price of LCFS credits. However, this is the nature of an open, transparent market based credit trading system, and in the event that the price of LCFS credits become high or is perceived to be excessively high, obligated parties will then become incentivized to actually provide low carbon fuels rather comply with LCFS by buying credits.

CBA supports the idea of allowing excess LCFS credits to be exported for compliance with other California GHG reduction initiatives such as AB32 provided that those initiatives are not targeting a carbon reduction for a specific application as does LCFS. However, CBA strongly opposes allowing for excess credits generated under other carbon reduction initiatives such as AB32 for use in LCFS compliance as these credits do not specifically contribute towards the stated LCFS goal of reducing the carbon intensity of fuels.



CBA opposes LCFS credit trading rules that would allow excess LCFS credits for one fuel category to be applied to another fuel category's LCFS requirements (i.e. CBA opposes allowing excess LCFS credits for gasoline to be applied to LCFS diesel requirements and vice versa).

Determination of Carbon Intensity Values

Default Values for Alternative Fuels Production Facilities – How will ARB determine default values for biodiesel production facilities? Will this be based on data for existing biodiesel production in California or will it be based on facilities outside of California? CBA recommends that LCFS design provides for a process for allowing biodiesel/biomass-based diesel production companies to qualify for option carbon intensity values using actual facility specific data. Default values for biofuels production facilities should be reviewed on a regular basis and adjusted as necessary to reflect to improvements in life cycle analysis and modeling and improvements in alternative fuels production facility design.

LCFS Program Review

CBA supports regular, meaningful reviews of the LCFS programs, milestones and targets to account for program effectiveness, technology advances, technical feasibility, change in the sciences supporting lifecycle analysis and modeling, and overall impact on the fuels markets. Any LCFS program review should be collaborative and attempt to involve key stakeholder groups.

Other Comments / Recommendations

LCFS should promote fuel diversity through a broad portfolio of low carbon fuels. Fuel diversity will help to spread price risk and reduce the price volatility of the overall fuel pool as well as reduce the negative environmental and health impacts related to the production and refining of petroleum-based fuels. Clearly no single type of low carbon fuel will be able to meet the LCFS targets. In order to ensure a broader, diversified fuel portfolio, LCFS rules and policies should explicitly recognize that incentives may be needed to overcome market barriers and introduce some types of low carbon fuels and related fuel distribution infrastructure, subject to meeting defined criteria.

LCFS must provide regulatory stability. This is critical for ensuring a stable and predictable investment climate to fund the necessary investment in low carbon fuels. Any changes contemplated as a result of regular LCFS program reviews should account for the need to maintain regulatory stability.

Summary

In summary, the California Biodiesel Alliance strongly supports:

- Separate gasoline and diesel LCFS requirements
- Promoting fuel diversity through a broad portfolio of low carbon and ultra low carbon fuels
- All California refiners and importers of petroleum-based fuels must be subject to LCFS requirements regardless of size
- Developing multiple baseline carbon intensities / pathways for biodiesel made from a variety of feedstocks that (i) are reflective of feedstocks currently available and used for commercial scale biodiesel production, and (ii) differentiate between biodiesel made that is in California versus being made in other countries or parts of the U.S.
- Rationalized Compliance path / schedule for LCFS and strongly opposes a back-end loaded or "Accelerating" compliance schedule/ path



- An Ultra Low Carbon Fuels requirement that starts at a certain point in time and has volumetric requirements that escalate over time
- Applying an Ultra Low Carbon Fuel requirement separately for each of the diesel and gasoline fuel categories. However, obligated parties should not be allowed to accumulate excess ULCF credits for one fuel category and apply these to another fuel category (i.e. obligated parties should not be allowed to accumulate excess gasoline ULCF credits and apply these to diesel ULCF requirements or vice versa).
- Generation of LCFS credits and related trading, provided such credits are awarded solely for 'over-compliance' as it relates to fuels sold in California and an obligated party will not be allowed to utilize carbon intensity reductions generated from fuels sold outside California
- Preventing excess LCFS credits for one fuel category to be applied to another fuel category's LCFS requirements (i.e. prevent excess LCFS credits for gasoline to be applied to LCFS diesel requirements and vice versa).
- Allowing external, non-obligated third parties to purchase and trade LCFS credits
- LCFS requiring obligated fuel providers in California to physically provide some minimum level of volumetric content of low carbon fuel and ultra low carbon fuels
- Allowing LCFS credits to be exported for compliance for other California GHG reduction initiatives such as AB32 to the extent that those initiatives are not targeting a carbon reduction for a specific application as does LCFS. However, CBA strongly opposes allowing for credits generated under other carbon reduction initiatives such as AB32 for use in LCFS compliance as these credits do not specifically contribute towards the stated LCFS goal of reducing the carbon intensity of fuels.