Comment 1 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: James
Last Name: Kempf
Email Address: kempf42@yahoo.com
Affiliation:

Subject: Proposed Carbon Reduction is not Rigorous Enough
Comment:

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Please see the attached file for comments.
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Attachment: www.arb.ca.gov/lists/lcfs09/1-carblowcarbonfuelcomments.txt

Original File Name: CARBLowCarbonFuelComments.txt

Date and Time Comment Was Submitted: 2009-03-07 21:26:54

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 3 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Carol
Last Name: Werner
Email Address: cwerner@eesi.org
Affiliation: Environmental and Energy Study Institute

Subject: Re: ILUC Consideration in the LCFS
Comment:

March 16, 2009

Mary D. Nichols, Chairwoman
California Air Resources Board
Headquarters Building
1001 â€œIâ€• Street
Sacramento, CA 95812

Chairwoman Nichols:

Reducing greenhouse gas emissions from transportation fuels is an important and urgent challenge for both California and our nation. It is one of the many hurdles that our nation will need to overcome if we are to address the climate crisis effectively and quickly. We at the Environmental and Energy Study Institute commend the staff of the California Air Resources Board for its thoughtful effort and leadership to establish a low carbon fuel standard â€“ for the State of California and as a model for the nation.

However, we are writing to express our concern that the excellent work the staff has done to assess the direct life cycle carbon emissions of various fuels, based upon scientifically sound and generally accepted methodologies, is significantly undermined by the inclusion of indirect carbon emissions from land use changes attributed to biofuels production, about which there is very little consensus in the scientific community. Scientists are only just beginning to explore the indirect relationships (if any) between biofuels production in the U.S. and land use changes around the world. To base such a critical policy decision upon such an uncertain and unsettled body of knowledge inserts a significant, unfounded bias against a class of fuels which may offer, in the final analysis, great promise in meeting our nationâ€™s pressing climate and energy challenges.

Traditional life cycle assessments include only what have come to be known as â€˜direct emissionsâ€™. Direct emissions include the carbon contents of the fuel itself, as well as the greenhouse gases released during each stage of production (from â€œwell to wheelsâ€•). Direct emissions are measurable, attributable, and described in well-tested models (such as the GREET model). â€œIndirect emissionsâ€•, on the other hand, are those emissions that are assumed to occur somewhere in the world as a result of general market forces exerted by the production of a particular kind of fuel â€“ in this case, the greenhouse gas emissions thought to be released from tropical deforestation and other land use changes as an indirect, market-driven result of farmland in the

U.S. being diverted away from food or feed crops to growing biofuel crops. Unlike direct emissions, indirect emissions cannot be observed, measured in situ or attributed to particular production chains.

The CARB staff is calculating these indirect emissions using a general equilibrium model to estimate aggregate emissions from land use change at the global level due to the impact of U.S. biofuel production on global markets. General equilibrium models simulate changes and trends in commodity production by assuming a closed system that seeks economic â€˜equilibriumâ€™ as determined by regional constraints of supply and demand. These models, however, are especially sensitive to the assumptions underlying the inputs and processes included in the model. In particular, assumptions regarding the supply of agricultural land, the availability of marginal lands, farmer behavior, agricultural production practices, economic value and use of biofuel co-products, and competing uses for land and natural resources, substantially affect model results. Determining the â€˜rightâ€™ assumptions and assigning values can be a highly subjective process over which scientists, policymakers, and stakeholders frequently disagree.

Confounding the problem further is the difficulty of determining additionality. Even if one assumes that biofuel production is the proximate cause of a certain amount of deforestation, one cannot assume that those forests would have otherwise remained intact in the absence of biofuel production. There are many causes of deforestation and land use change â€“ timber demand, livestock grazing, mining, urban sprawl, global food and feed demand, and subsistence activities. People continually seek to realize the highest value from the land. If biofuels are removed as a market driving factor, other factors will likely fill the void. In sum, using these models to calculate indirect emissions remains a highly subjective and speculative process, dependent on a number of a priori assumptions that bias the outcome.

There is another, more fundamental issue with including indirect emissions in the LCFS assessment: this concerns the precedent of holding an industry in the U.S. responsible for activities (real or supposed) undertaken by people across distant borders in other sovereign nations. If this standard is to be applied to biofuels, in fairness, should it not also be applied to the assessment of fossil fuels, hydrogen, and electricity? On a broader level, is this a new standard to which other industries and public policy decisions should be held? The analysis of indirect effects could be applied to regulate against a host of other economic and social activities. All large scale activities that use scarce resources, affect markets, or influence economic or social behavior are likely to have some distant, indirect effects.

Global deforestation, conversion of native grasslands and shrublands, and ecosystem degradation are very real problems, with impacts on biodiversity, water security, and the welfare of indigenous peoples. These land use changes have been accelerating for decades, driven by many factors â€“ long before the U.S. biofuel industry came on the scene. The resulting greenhouse gas emissions are huge, amounting to over 18% of total global emissions. The international community must work together with urgency and speed â€“ through international negotiations, treaties, and financial and technical assistance - to prevent further loss of forests and ecosystems across the globe.

Including indirect emissions from land use change in the LCFS, however, is not likely to promote the stable climate and healthy ecosystems that we all seek. Instead, it will only reduce the political legitimacy of the LCFS as a fair and objective tool for comparing fuel options and unfairly penalize an industry that offers great promise for addressing the nationâ€™s climate and energy challenges. If the LCFS is to be an objective, technology-neutral assessment tool, it must treat all fuels equitably, using consistent, generally accepted, scientific criteria and methods. Otherwise, it will merely serve to reinforce the predispositions of the modelers.

Sincerely,
Carol Werner
Executive Director, Environmental and Energy Study Institute

Cc: The Honorable Arnold Schwarzenegger, Governor of California
David Crane, Special Advisor for Jobs and Economic Growth, Office of Governor Schwarzenegger
Linda Adams, Secretary, California Department of Food & Agriculture
Mike Scheible, Deputy Director, Air Resources Board
Karen Douglas, Chairwoman, California Energy Commission

Attachment: www.arb.ca.gov/lists/lcfs09/3-lcfs_iluc_letter_031609.pdf

Original File Name: lcfs_iluc_letter_031609.pdf

Date and Time Comment Was Submitted: 2009-03-16 05:20:36

No Duplicates.

Comment 4 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jack
Last Name: Thompson
Email Address: nepsaski@hotmail.com
Affiliation: UCalSB

Subject: The science is right - Bio Fuels are 48% better
Comment:

Please remember that there are lots of Petro Industry dollars being spent to discredit the biofuel production. Please reread the recent Yale paper that put the above number in a place I hope you will remember when you adopt any new standard for "low" carbon.

The following is only related to corn ethanol but for now that is the largest sector to consider:

There is zero displacement of food acreage by fuel acreage. And the average person is overweight. Corn ethanol for example is also feed and food, not just fuel. Only the starch in feed corn goes to ethanol, which cattle and dairy cows have difficulty digesting. The byproduct of corn ethanol, high protein distillers grains is a better feed product than the whole corn itself. It’s what you call a value-added product. This corn ethanol byproduct supplements a large livestock, dairy, poultry, and fish farming industry.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-16 17:25:32

No Duplicates.

Comment 5 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Richard
Last Name: Ottinger
Email Address: rottinger@law.pace.edu
Affiliation: Dean Emeritus, Pace Law School

Subject: Land Use Valuation for LCFS
Comment:

I strongly endorse the views expressed in the letter to The ARB submitted by Carol Werner, Executive Director of the Environmental and Energy Study Institute. While I am Chair of the EESI Board of Directors, I also am a Former Member of Congress (1964-1985), chairing its Energy, Conservation & Power Subcommittee; Faculty Member of Pace Law School and Chair of its Energy and Climate Center; and Chair of the Energy and Climate Specialty Group of the IUCN Commission on Environmental Law.

The views expressed by Ms. Werner on the unreliability of land use valuations in determining the costs and benefits of bioenergy production are sound. There is no sound way of knowing what value to be placed on the indirect effects of land use on biofuels production in light of the inability to ascertain the effects of other land use demands. Also it is unwise to single out biofuels for such a valuation, ignoring the land use consequences of fossil fuel, nuclear and other energy resources; even solar and wind projects have land use consequences, equally unmeasurable.

Bioenergy unfortunately has achieved strong negative bias from many environmental organizations because of the ill food effects of US corn crop as a biofuel feedstock and the Indonesian castrophy of using deforested areas and peat bog destructions to plant palm plantations for biodiesel. Standards need to be adopted to prevent such practices and are being developed, most particularly by the Roundtable on Sustainable Biofuels of the Ecole Polytecnique de Lausanne. But putting a false value on land use just for Bioenergy, practically making it unmarketable, is bad energy and climate policy.

Respectfully submitted

Richard Ottinger
Dean Emeritus
Pace Law School

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-19 07:27:39

No Duplicates.

Comment 6 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joanne
Last Name: Ivanc
Email Address: jivancic@advancedbiofuelsusa.org
Affiliation: Advanced Biofuels USA

Subject: Comments on LCFS and ILUC
Comment:

The Honorable Arnold Schwarzenegger
Office of the Governor
State Capitol
Sacramento, CA 95814

RE: Comments on Proposed CA Low Carbon Fuel Standards

Dear Governor Schwarzenegger:

Advanced Biofuels USA is concerned that all green house gases (GHG) produced to power vehicles are fairly and appropriately attributed to GHG inventories per the Clean Air Act. These calculations should reflect scientific facts and help us compare technologies that mitigate climate change with those that do not.

While the U.S. Supreme Court has clearly stated that the Environmental Protection Agency (EPA) has the regulatory authority to issue CO2 control regulations under the Clean Air Act, and California took the lead in regulating ozone (smog) causing pollutants in the 1950s, it is very important that any motor vehicle CO2 controls by California or other states properly account for all related CO2 production. This is especially important since new vehicle technologies including plug-in hybrids and advanced biofuels produced from low nutrient input non-food biomass will be coming to market in the near future. Therefore, California should strongly consider the following as they set low carbon fuel standards.

1. CO2 Emissions from Plug-In Hybrid Vehicles (PHEVs) and Electric Vehicles

It is extremely important that CO2 produced in the course of producing electricity to charge plug-in hybrid or electric only vehicles be properly accounted for in Clean Air Act mandated emission inventories. Even more important, they must be apportioned to, and therefore controlled at, their actual place of use. If not, California could claim plug-in hybrids used in Los Angeles are "emission-free" while the electricity and CO2 produced to charge them comes from a new or expanded coal-fired power plant located where they will not be included in a relevant inventory. This would result in additional CO2 being emitted into the earth’s atmosphere without any record of these emissions having occurred, subverting the goal of controlling Green House Gas emissions.

California Air Resources Board should ensure that any CO2 regulations include the following:

a. All electricity and CO_2 generated from coal or other non-renewable fueled power plants used to charge plug-in hybrid or electric only vehicles must be accounted for in Clean Air Act mandated state emission inventories.
b. Quantities of electricity and CO_2 used for charging batteries must include energy losses (and CO_2 production) incurred in electrical production, step-up/step-down transformers, and long-range transmission, (totaling approximately 60%+ of total electrical production, USNAS).
c. Calculations must be consistent.
d. Plug-in Hybrid battery charging electrical CO_2 emissions must be included, along with on-board combustion CO_2 emissions, in point-of-use state mobile source emission inventories no matter where the electricity is produced.
e. Electric only vehicle charging electrical CO_2 emissions must be included in point-of-use mobile source state emission inventories no matter where the electricity is produced.

2. Uniform Calculations for Advanced Biofuels CO_2 Emissions

With the potential of CO_2 emission or fuel economy waivers being granted to California and the New England/Mid Atlantic States, there is the possibility of at least three different standards and, more important, three different methods of calculating Green House Gas emissions. Therefore, it is important to have a single uniform method (or formula) for making these calculations. In establishing this formula, the following technical issues must be addressed.

a. A uniform standard for the conversion of CO_2 emissions from plug-in, electric only (see above) and conventional hybrids to miles per gallon (MPG) that is equal (not equivalent) to the MPG of internal combustion equipped vehicles. (Without this, marketing claims and false science will take over.)

b. A uniform standard (or algorithm) for the calculation of CO_2 emissions and MPG for biofuels, in addition to existing standards for corn-ethanol or soybean oil biodiesel, that can account for: a) increased energy content per gallon, b) decreased CO_2 emissions during fuel production, and c) increased MPG of new fuel mixtures. (Without this, significant regulatory barriers to the use of new biofuels, which would decrease CO_2 emissions without affecting food production and costs, would be created.)

3. The theory of indirect land use is not backed by an adequate level of scientific understanding to be used to regulate the impact of greenhouse gas emissions from biofuels

This proposal also would base critical Green House Gas emission regulations on an untested theory of indirect land use that postulates a direct correlation between any US agricultural actions and those taken anywhere else on the planet. Furthermore, supporters of this theory claim it should be used to analyze greenhouse gas emissions for the California Low Carbon Fuel Standard because it is “our best estimate of carbon discharges” despite that fact that no empirical evidence has been put forth that supports this theory.
Advanced Biofuels USA does not think those ’best estimates’ meet even the basic standards of scientific inquiry. The indirect land use rules being considered for inclusion in the CARB low-carbon fuel regulations are far too uncertain and limited in effect to

meet regulatory standards and would result in selective enforcement.
Advanced Biofuels USA supports the use of empirically based system analyses of all fuels that would be used to supply power for transportation. It is important that a level playing field, based on all energy inputs, environmental effects, and additional economic costs, be created for regulatory purposes. Specific issues that must be addressed include:

• All energy lost (approximately 60%) in the generation and transmission of electricity used to recharge electric and plug-in hybrids must be accounted for. Since most of this is from non-renewable fuels, significant GHG emissions must not be missed.

• The energy and GHGs used to extract and concentrate uranium to electrical production levels and the energy/GHGs and costs required for the secured long-term storage of spent fuel must be accounted for. In addition, the national security costs of relying on imported sources of uranium must be included.

• The environmental damage caused by petroleum extraction in sensitive ecosystems, including the Arctic and tar sand basins, and the energy and GHGs produced to remediate them must be accounted for.

• The energy and GHGs used to produce batteries for hybrids and electric cars (above that used to produce baseline gasoline vehicles) must be accounted for. In addition, the energy and GHGs required to dispose of batteries in an environmentally neutral manner must be accounted for as well.

• The production conditions of the base case gasoline fuel must included sources that would be used post 2012 in order to provide a comparable case to advanced biofuels that would begin to reach the market by that date. This would mean including the costs and GHG effects of using tar sand, deep ocean, and Arctic petroleum.

• The calculation of GHG effects of biofuels must include provisions for future GHG reductions. These include; nutrient input reductions, reductions in use of food crops, reductions in non-renewable fuel use for farming and processing, innovations in biomass sources and biomass conversion, recycling of CO2, and increases in the energy content of the fuel. This is especially important since the advanced biofuel industry is only in its infancy, comparable to the petroleum industry in the early 20th century, and many of the possible improvements have not even made it into labs for testing.

California will be making a crucial decision when they consider Low Carbon Fuel regulations. The right approach will spur industry and consumers to an innovative affordable low Green House Gas future. A wrong decision will misdirect scarce funds to hyped solutions such as plug-in hybrids that will not benefit the citizens of California or the United States.

Advanced Biofuels USA urges CARB to reject current ILUC analysis as part of the LCFS.

Respectfully,

Joanne Ivancic

Executive Director

cc: Mary Nichols, Chairman, Air Resources Board

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-20 11:37:28

No Duplicates.

Comment 7 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kyle
Last Name: Yang
Email Address: kyang@alum.mit.edu
Affiliation:

Subject: comments in support and on other carbon-cutting ideas
Comment:

Ladies and Gentlemen,
I'd like to congratulate you on the admirable document, LCFS09. I sincerely hope it is adopted. I would like to suggest that you also consider another method to reduce carbon emissions as well as the usual suspects (NOx, etc).

No doubt you have considered it, but why not just move ahead with a regulation to "end idle" in passenger cars as well as diesel trucks, buses, etc. By this, I mean that no cars should have their internal combustion engines running at speeds of, let's guess, roughly 2 mph or less, whether braking or accelerating.

All of the Big-3 have vehicles that have at least mild-hybrid technologies (batteries & electric motors supporting internal combustion engines), and some have more sophisticated units, similar to the Prius. Mild hybrids alone save ~ 15% of gas consumption, and therefore the commensurate amount of CO2 emmisions. Furthermore, this would have very beneficial consequences with respect to particulates and perhaps other pollutants, since it is during the initial acceleration of the vehicle when many of these products are most significant. The best thing about the goal of merely ending idle is that no technology development need occur. It's already here, but the deployment is sparse.

In terms of implementation, of course, one may not want to regulate this based solely on speed alone. Certainly there need to be exceptions, such as when the car is in the shop for maintenance. But, particularly for trucks, a speed-based standard may be not be correct when, say, the truck is stopped on an uphill incline - in that case, additional torque may be needed from the IC engine to get the truck running. Perhaps the standard could be that the IC engine should not be running for speeds less than, say, 2 mph, on a level road, or at a comparable torque level for inclines. Also, units with, say, natural gas engines or similar could be exempted, if desired.

This could even be applied to trains - GE has such a train now.

Keep up the good work!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-20 22:32:13

No Duplicates.

Comment 8 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Peter
Last Name: Berg
Email Address: prberg2@yahoo.com
Affiliation:

Subject: Low Carbon Fuel Standard is a must
Comment:

I want to thank the CARB for proposing this new fuel standard. I think it is absolutly critical that we consider the entire 'life cycle' of the fuels we use in our vehicles. Just beacuse a specific fuel comes from Corn and not oil does not automatically make it a clean fuel.

Please hold strong to this new standard. We must strive to reduce carbon/pollution emmissions throughout the entire cycle of a fuel's production and use. I also believe we should encourge more electric vehicles. Electricity has the potential to be even cleaner than any of the biofuels that have been proposed.

Even if we are in a recession, our air quality and health are too important to delay these important rules. The air quality in California is poor and we must do something to improve it.

Thank you,
-Peter Berg
Burbank, California

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-20 23:04:07

No Duplicates.

Comment 9 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kevin
Last Name: Harris
Email Address: kharris0203@mac.com
Affiliation:

Subject: The TYPE of Biofuels makes all the difference
Comment:

This is both solid science and common sense, but it needs to be said here anyhow. Corn-based biofuels do not help the environment and do not save the taxpayers or consumers money. The added carbon burning fuels needed to plant, raise and harvest the corn, the extra pesticides used to maintain the crop, the govt subsidies that are routed to the corn farmers, all of these make corn-based biofuels and worse choice than even iol-based gasoline for our environment and our wallets.

Cellulose-based biofuels can make a positive impact, and would be worth implementing. The problem is, not many interest groups are currently set to profit from this activity, except, ofcourse, California citizens. But if and when California citizens become the important interest group we are supposed to be, cellulosed-based ethanol is the only biofuel option worth moving to from our current large-scale fueling methods.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-21 08:32:22

No Duplicates.

Comment 10 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Nikolas
Last Name: Malechikos
Email Address: Nikolas@RedlineTrackEvents.com
Affiliation:

Subject: Proposed Regulation to Implemement the Low Carbon Fuel Standard
Comment:

I fully support efforts to eliminate using Corn-based ethanol. It is a sham, a HUGE waste of money and VERY bad for the environment. More energy is used, more carbon dioxide emitted, and more petroleum is used to make one gallon of ethanol, than is offset by USING THAT ONE GALLON of corn based ethanol.

You already know the facts. Don't let the corn growers of the Mid West dictate how we run our state cleanly and efficiently.

Cellulosic Ethanol is the way of the future, and California MUST lead the way in making the shift to it.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-22 09:46:58

No Duplicates.

Comment 11 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Farone
Email Address: farone@appliedpowerconcepts.com
Affiliation: Applied Power Concepts, Inc.

Subject: Low Carbon Fuels
Comment:

My company has been involved with alternative fuels since it was founded here in CA in 1987. It has always been axiomatic that such fuels much have an energy efficiency for the entire process from obtaining the raw materials to use with matching energy content (or reduction in carbon emission to make up the difference) to fossil fuels. If not then the carbon emission are actually larger for the same energy output because you need more fuel.

In cases like corn ethanol there is only an advantage if there is a cap on gasoline being used so that the extra carbon dioxide from ethanol forces a commensurate reduction. When you use a sugar to make ethanol it ALL ends up as carbon dioxide and the energy content of the fuel part is less than gasoline. Ethanol makes sense when it is made from wastes which will make the equivalent amount of carbon dioxide if nt turned into fuel.

Currently CA condones the wasteful process of green waste composting. This generates huge amounts of carbon dioxide and when done incorrectly also produces significant amounts of methane. My calculation indicates that this is a significant source of emissions in CA. Importing starch, sugar or fuels made from starch crops and sugar is also much less efficient when making fuels with less energy content, for example, making butanol is energetically better than making ethanol.

It is my hope that CARB will recognize that many of the alternative fuel programs such as corn ethanol, plasma gasification, air blown gasification, pyrolysis, etc. are not as effective as other waste to fuel, waste to energy processes or even crops grown for the purpose near the source of manufacture of the fuel or energy.

The well (raw materials) to wheels analysis should make any alternative at least as good as the electric vehicle or "natural gas" vehicle based on anaerobic digestion or non-air blown gasifications of wastes.

Let us not make the mistake of the 1980s wherein uneconomical and energy deficient processes were commercialized and failed by the scores with wind energy being the only real survivor here in CA. CARB can lead the way by implementing strict energy and emissions criteria that will prove benefits and not just create "ventures" that will fail in keeping the air clean as well as economically.

We need to stop composting ad turn that material into fuels.

Wiliam A. Farone, Ph.D.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-22 12:55:37

No Duplicates.

Comment 12 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ashley
Last Name: Boren
Email Address: Non-web submitted comment
Affiliation:

Subject: Sustainable Conservation
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/12-ashley_boren.pdf

Original File Name: Ashley Boren.pdf

Date and Time Comment Was Submitted: 2009-03-24 13:19:26

No Duplicates.

Comment 13 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Chris
Last Name: Carney
Email Address: ccarney@ucsusa.org
Affiliation:

Subject: Union of Concerned Scientists comments on the LCFS
Comment:

March 25, 2009

Mary Nichols, Chairman
California Air Resources Board
1001 I St., P.O. Box 2815
Sacramento, CA 95812

Re: California Low Carbon Fuel Standard

Dear Chairman Nichols and Members of the Board:

The Union of Concerned Scientists (UCS) applauds the California Air Resources Board (CARB) for developing the framework for a performance-based standard to reduce global warming pollution from our transportation fuels. By holding fuel providers accountable for emissions from the entire life cycle of making and using a fuel, the Low Carbon Fuel Standard will not only protect California from dangerously high-carbon fuels, like liquid coal and petroleum from tar sands, but also has the potential to provide incentives for a new generation of cleaner transportation fuels.

UCS also strongly supports CARB’s inclusion of indirect land use changes from biofuel production. The science is clear on the basics: increased demand for crops to make fuel results in higher global commodity prices that can induce farmers in other countries to plow up sensitive ecosystems - including rain forests in South America and Southeast Asia that have a high degree of biodiversity. For some carbon-rich land types such as forests, a great deal of global warming pollution can be released from the soil and trees when this land is cleared and plowed.

The scientific debate will continue on which methods and models can best calculate the emissions from such indirect land uses changes, but CARB’s proposed values are, if anything, conservative. Any fuels policy that ignores the indirect consequences of biofuels production can lead to perverse outcomes that appear to decrease emissions in the U.S. fuel sector, but actually increase global warming pollution worldwide.

UCS sees several opportunities to strengthen the LCFS, including:

* using a science-based accounting for greenhouse gas emissions over time to account for the global warming potential of heat-trapping gases accumulating in the atmosphere;

* ensuring the LCFS provides real pollution reductions and ushers

in a new generation of ultra low-carbon fuels;
including minimum safeguards to ensure the LCFS does not provide unintended incentives for fuel production that result in ecological harm to our federal lands, forests, and other sensitive ecosystems;

*including metrics to ensure the LCFS provides incentives for the development of broadly sustainable alternative fuels, while avoiding unintended support for fuels with negative environmental or social impacts, such as raising food prices; and

* setting protections for California's air quality and public health.

While there is room for the LCFS to be strengthened, UCS commends CARB for setting the framework for a cutting-edge fuel policy founded on a basic principle: the LCFS sets a performance standard and allows fuels compete in the marketplace to meet the standard, without picking winners or losers. There is still time to avoid the worst consequences of global warming, but it is critical that California gets the full emission reductions possible from our transportation fuels.

Thank you for the opportunity to comment on the staff proposal for the LCFS. UCS will submit more detailed and complete comments before the end of the public comment period.

Sincerely,

Patricia Monahan
Deputy Director for Clean Vehicles

Chris Carney
Western Region Outreach Coordinator

The Union of Concerned Scientists is the leading science-based nonprofit working for a healthy environment and a safer world. UCS combines independent scientific research and citizen action to develop innovative, practical solutions and to secure responsible changes in government policy, corporate practices, and consumer choices. Founded in 1969, UCS is headquartered in Cambridge, Massachusetts, and also has offices in Berkeley, Chicago, and Washington, D.C. For more information, go to www.ucsusa.org.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-25 08:09:28

No Duplicates.

Comment 14 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Thor
Last Name: Bailey
Email Address: thorb@agbiocouncil.org
Affiliation: Ag Biomass Council Inc

Subject: CARB letter attached
Comment:

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The hard copy of the attached letter is in the mail.


 Thor Bailey, President

       530-966-1935

             ABC

Ag Biomass Council Inc

  www.agbiocouncil.org
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Attachment: www.arb.ca.gov/lists/lcfs09/14-carb_letter.pdf

Original File Name: CARB letter.pdf

Date and Time Comment Was Submitted: 2009-03-25 09:45:30

No Duplicates.

Comment 15 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Philip
Last Name: Treanor
Email Address: philipjtreanor@gmail.com
Affiliation:

Subject: Regulation changes to Land usage
Comment:

```
Please find an attachment pertaining to the changes being proposed
by CARB

Philip Treanor
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Attachment: www.arb.ca.gov/lists/lcfs09/15-steve_shaffer_letter.doc

Original File Name: Steve Shaffer letter.doc

Date and Time Comment Was Submitted: 2009-03-25 10:21:58

No Duplicates.

Comment 16 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bonnie
Last Name: Holmes-Gen
Email Address: bhgen@alac.org
Affiliation:

Subject: American Lung Association in California comments on the LCFS
Comment:

See Attachment

Attachment: www.arb.ca.gov/lists/lcfs09/16-alac_comments_re_lcfs_march_25_2009.pdf

Original File Name: ALAC comments re LCFS March 25 2009.pdf

Date and Time Comment Was Submitted: 2009-03-25 11:53:15

No Duplicates.

Comment 17 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: philip
Last Name: treanor
Email Address: philipjtreanor@gmail.com
Affiliation:

Subject: LCFS09
Comment:

The proposed Low Carbon Fuel Standard that is proposed by the California Air Resources Board may be the Straw that breaks the camels back.

From what I read it appears that the Farming & Ranching community may have to petition CARB in order to continue the practice of farming. I would assume the employees of CARB who will oversee this regulation have Ph.d in Agrominics and possibly have the ability to provide the necessary financing and expertise when they oversee the crop planting, harvesting and overall land use.

Suggestion only! Common Sense will save everyone a lot of grief.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-03-25 12:52:52

No Duplicates.

Comment 18 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Remy
Last Name: Garderet
Email Address: remy.garderet@einow.org
Affiliation: Energy Independence Now

Subject: Support for LCFS, including iLUC
Comment:

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Attached our preliminary comments in support of the proposed LCFS
regulation.
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Attachment: www.arb.ca.gov/lists/lcfs09/18-ein_-_support_for_lcfs__including_iluc.pdf

Original File Name: EIN - Support for LCFS, including iLUC.pdf

Date and Time Comment Was Submitted: 2009-03-26 10:48:31

No Duplicates.

Comment 19 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Dean
Last Name: Frommelt
Email Address: dean.frommelt@adm.com
Affiliation: Archer Daniels Midland

Subject: Comments Regarding Draft LCFS09
Comment:

```
ADM previously submitted the attached comments directly to Ms.
Singh but is resubmitting them to the Clerk of the Board to ensure
they are properly on record.
```

Attachment: www.arb.ca.gov/lists/lcfs09/19-20081216_adm_comments_ca_lcfs_draft.pdf

Original File Name: 20081216 ADM Comments CA LCFS Draft.pdf

Date and Time Comment Was Submitted: 2009-03-27 11:22:38

No Duplicates.

Comment 20 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Shears
Email Address: shears@ceert.org
Affiliation: CEERT

Subject: Support Letter for CA Low Carbon Fuel Standard
Comment:

```
CEERT comments re: low carbon fuel standard
```

Attachment: www.arb.ca.gov/lists/lcfs09/20-support_letter_for_low_carbon_fuel_standard.pdf

Original File Name: support letter for low carbon fuel standard.pdf

Date and Time Comment Was Submitted: 2009-03-27 12:13:48

No Duplicates.

Comment 21 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Nick
Last Name: Lapis
Email Address: nicklapis@cawrecycles.org
Affiliation: Californians Against Waste

Subject: Joint Comments on Waste in LCFS
Comment:

```
Attached please find joint comments from the following
organizations:

Alameda County Waste Management Authority and Recycling Board
Breathe California
California Resource Recovery Association
Californians Against Waste
Center for Biological Diversity
City of San Jose, Environmental Services Department
Coalition for Clean Air
Environment California
Environmental Defense Fund
Friends of the Earth
Natural Resources Defense Council
Northern California Recycling Association
San Francisco Department of the Environment
Sierra Club California
Sustainability, Parks, Recycling and Wildlife Legal Defense Fund
```

Attachment: www.arb.ca.gov/lists/lcfs09/22-lcfs_public_comment_3-27-09.pdf

Original File Name: LCFS Public Comment 3-27-09.pdf

Date and Time Comment Was Submitted: 2009-03-30 10:14:14

No Duplicates.

Comment 22 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Shelly
Last Name: Sullivan
Email Address: ssullivan@onemain.com
Affiliation:

Subject: LCFS Comments -Life Cycle Analyses and Economic Analysis
Comment:

```
Attached please find a letter from 25 organizations regarding
CARB's LCFS regulation implementation.

If you have any questions or need anything further, please contact
Shelly Sullivan at (916) 858-8686.

Thank you.
```

Attachment: www.arb.ca.gov/lists/lcfs09/23-lcfs_coalition_letter_3-30-09.pdf

Original File Name: LCFS coalition letter 3-30-09.pdf

Date and Time Comment Was Submitted: 2009-03-30 10:29:27

No Duplicates.

Comment 23 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kenneth
Last Name: Cassman
Email Address: kcassman1@unl.edu
Affiliation: University of Nebraska

Subject: Comments on: “Detailed California-Modified GREET Pathway for Corn Ethanol”
Comment:

```
See uploaded file on:
Comments on “Detailed California-Modified GREET Pathway for Corn
Ethanol”, Version 2.1 , February 27, 2009.

Submitted by:

Kenneth G. Cassman and Adam J. Liska
Nebraska Center for Energy Sciences Research,
Department of Agronomy and Horticulture
University of Nebraska-Lincoln
```

Attachment: www.arb.ca.gov/lists/lcfs09/25-9-03-31_critique_of_transparency_in_carb_lca_methods.pdf

Original File Name: 9-03-31 Critique of Transparency in CARB LCA methods.pdf

Date and Time Comment Was Submitted: 2009-03-31 09:12:15

No Duplicates.

Comment 24 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Timothy
Last Name: O'Connor
Email Address: Non-web submitted comment
Affiliation:

Subject: Environmental Defense Fund
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/27-timothy_oconnor.pdf

Original File Name: Timothy OConnor.pdf

Date and Time Comment Was Submitted: 2009-04-01 13:06:59

No Duplicates.

Comment 25 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Roland
Last Name: Hwang
Email Address: Non-web submitted comment
Affiliation:

Subject: NRDC
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/28-roland_hwang.pdf

Original File Name: Roland Hwang.pdf

Date and Time Comment Was Submitted: 2009-04-01 13:08:21

No Duplicates.

Comment 26 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Hall
Email Address: bilgepump100@sbcglobal.net
Affiliation:

Subject: Low Carbon Fuel Standard (LCFS) for transportation fuels
Comment:

```
Please adopt Low Carbon Fuel Standard (LCFS) for transportation
fuels.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 16:14:58

No Duplicates.

Comment 27 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joel
Last Name: Balbien
Email Address: joel.balbien@gmail.com
Affiliation: GreenTech Consulting, LLC

Subject: Carbon Black
Comment:

I strongly urge the Board, in developing the low carbon fuel standard, to consider recent research by the NASA Goddard Institute for Space (GISS) and Columbia University that have found that black carbon is responsible for 50%, or almost 1 °C of the total 1.9 °C increased Arctic warming from 1890 to 2007. [Drew Shindell and Greg Faluvegi of Columbia, published in Nature Geoscience].

This study is the first to quantify the Arctic's sensitivity to black carbon emissions from various latitudes, and concludes that "the Arctic responds strongly to black carbon emissions from the Northern Hemisphere mid-latitudes, where the emissions and the forcing are greatest."

Black carbon is an aerosol produced from the incomplete combustion of fossil fuels and biomass and is estimated to be the second or third largest contributor to climate change. Its emissions cause damage in two ways: while in the atmosphere, the dark particulates absorb sunlight and emit it as heat; when it falls back to earth it can darken snow and ice, reducing their reflectivity and accelerating melting.

Arctic warming is the "Canary in Cage" with respect to Climate Change, with more than twice the observed global average surface warming of 0.78 °C above pre-industrial levels. According to another study published by Lenton, et al. in the Proceedings of the National Academy of Sciences last year, this increased warming may soon lead to the disappearance of the Arctic summer ice, which would in turn accelerate Arctic warming by exposing darker heat-absorbing water now covered by heat reflecting ice. This would also increase the risk of releasing methane and other greenhouse gases from permafrost and from methane hydrates in the ocean, which could lead to a runaway feedback process.

In addition, because black carbon only remains in the atmosphere for several days to weeks, reducing it can bring about almost immediate mitigation of warming, whereas decreases in temperature lag reductions in CO2 by 1,000 years or more. The only place that is worse than the arctic, as a final destination for black carbon, is the lungs of humans and other animals. As a result, the net economic benefits (including human health) of reducing black carbon emissions from diesel engines and Powerplants, are likely to exceed all other GHG control measures on a dollar of emission control expenditures per gram of carbon basis.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 16:31:58

No Duplicates.

Comment 28 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Pousman
Email Address: frostitude@yahoo.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

CARB Members:

Your support on the Governor's plan to reduce the carbon footprint of our fuels is imperative at this time. For far too long we, the public have been the victims while the corporations rake in profits and at the expense of our health.

Advancements in technology and growth of new technologies will create jobs and competition in the energy sector. California, as always has to be the leader.

Please support this proposal.

Sincerely,

Dr. Robert M. Pousman
Malibu, CA

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 16:35:38

No Duplicates.

Comment 29 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mike
Last Name: Scott
Email Address: mike-exanimo@sbcglobal.net
Affiliation:

Subject: Please adopt the LCFS
Comment:

```
Please adopt the LCFS immediately.  Thank you.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 16:37:38

No Duplicates.

Comment 30 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jeff
Last Name: Salvaryn
Email Address: musicnut21@gmail.com
Affiliation:

Subject: California needs a strong Low Carbon Fuel Standard
Comment:

Thank you for your leadership developing California's Low Carbon Fuel Standard (LCFS), which, if done right, will spur innovation, create jobs, and move us toward a stronger clean energy economy.

In creating the LCFS, it's critical to account for all the global warming pollution associated with producing a fuel. That's why I appreciate the California Air Resources Board's plan to include the carbon released by changes in land use caused by biofuels, whether it's the direct or indirect effects of clearing land to grow fuel crops. Ignoring these land use changes could dramatically overestimate the carbon benefits of new fuels; in fact, the proposed LCFS should raise its estimates for emissions from such indirect effects.

In addition, please strengthen the proposed LCFS regulation by ensuring that it:

* results in a new generation of ultra low-carbon fuels;

* safeguards the ecology of sensitive ecosystems, including our federal lands and forests;

* promotes sustainable fuels that avoid unintended environmental and social harms, such as raising food prices; and

* protects California's air quality and public health.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 17:42:39

No Duplicates.

Comment 31 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: nathan
Last Name: keller
Email Address: whywouldiexposemyemailaddress@hotmail.com
Affiliation:

Subject: LCFS09 Please do everything you can and more to lower emmissions
Comment:

```
Please do everything you can to show leadership, that is leading us
to a better environment for generations to come. Our world needs
leadership, not talk about leadership. Our country is driven by
money, and money isn't always the right motivator for positive
change. We need to lower emissions, probably a lot lower than seems
reasonable. To achieve extraordinary results, we sometimes must be
seemingly unreasonable. Please adopt LCFS and mandate immediate
change, not change during someone elses terms.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 18:06:40

No Duplicates.

Comment 32 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Barbara
Last Name: Arcure
Email Address: espritjoie@yahoo.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

```
As a member of the Union of Concerned Scientists I support their
comments and conclusions.  Thank you for pursuing this regulation.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 19:24:51

No Duplicates.

Comment 33 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: anthony
Last Name: dabbracci
Email Address: dabb@pacific.net
Affiliation: scientist

Subject: improve air quality
Comment:

To the Board; I approve, as does the Governor,having cleaner air to breathe. I object to giving any facility special treatment or exemption to dump waste carbon products into the atmosphere. Point sources, such as coal burning plants, offer the best opportunity for controlling the bulk of their "waste" carbon, which itself could be recycled if not at a profit, at least at net diminished loss, one which infinitely outweighs the illnesses we all, asthmatics especially,must pay for, either individually or collectively through Medicare, hospital closures due to excess costs, etc. Your job is to work for our health, and it is your obligation to make tough decisions for our benefit. Reason requires you to include statistics of estimated financial losses above referenced. Get them from scientific, not politicized,self-interested sources. Use them in the course of your work on behalf of the public you are sworn to serve. Thanks.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 20:25:12

No Duplicates.

Comment 34 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Sharyn
Last Name: White
Email Address: eireannach9@sbcglobal.net
Affiliation:

Subject: Low Carbon Fuel Standards vote
Comment:

I strongly support the passage of the governor's LCFS this April. I only wish it was mandated to more than 10% by his chosen date. We cannot act soon enough. I understand from certain environmental scientists that the amount of carbon that is emmitted into the atmosphere isn't fully measurable until it's been in the atmosphere for 10 years. This means that what we are measuring today is the result of pollution accumulation from 1999. As air is life to ALL of us, it is imperative we act now to contain pollution and clean up all our collective behaviors. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 21:53:53

No Duplicates.

Comment 35 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Steve
Last Name: Colton
Email Address: stevecolton@mindspring.com
Affiliation:

Subject: Support for setting low carbon fuel standards
Comment:

Please move us as quickly as possible out of the dinosaur fuel age of turning once relatively stable and mostly buried organic fossils into earth damaging atmospheric carbon loading. Elementary - really.

We have a lot of ground to make up for as this should have been initiated decades ago. So, start right now and help California once again lead the nation away from that darkness.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-02 23:31:19

No Duplicates.

Comment 36 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Daria
Last Name: D'Andrea
Email Address: daria_dandrea@att.net
Affiliation:

Subject: Low Carbon fuel Standards
Comment:

```
I am writing to urge the adoption of the regulations on LCFS. It is
enormously important to get this right.  If we can expedite the
change in the fleet of cars and trucks on our roads, and the fuels
we are using on a daily basis, we will stand a chance against
global warming.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-03 07:24:32

No Duplicates.

Comment 37 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joyce
Last Name: Carlson
Email Address: eandjcarlson@verizon.net
Affiliation: League of Women Voters

Subject: Low Carbon Fuel Standards
Comment:

```
Members, Air Resources Board,
    I am chairperson of a Community Forum about Global Climate
Change. It is co-sponsored by the LWV of Ventura County and the
city of Santa Paula. It will take place April 25 and will focus on
the scientific causes and effects of Global Climate change, and, as
importantly, what each of us can do to lessen lur Carbon Footprint.
 We are reaching to the entire community as we believe Global
Climate Change is the greatest threat ever posed to our Country and
the entire world.
  We strongly encourage you to support the legislation that would
lead to a long term improvement of our environment:  Support the
Low Carbon Fuel Standard!  Thank you!
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-03 09:03:11

No Duplicates.

Comment 38 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William and Hiroko
Last Name: Mattsson
Email Address: willhiro@sbcglobal.net
Affiliation:

Subject: LCFS bill
Comment:

We hope you will adopt this regulation to assist California and the rest of the planet to reduce our carbon emissions. We'll be long gone before any meaningful results of any of the newly proposed or adopted technologies and regulations begin to have a serious effect on the planet or our state. However, we support these new efforts as best as we can. It is likely too late for us to add a solar array to our home or to purchase a low emission vehicle; we're retired and have no source of income other than our STRS pensions. And while we've no children, we still want the planet to be habitable for those who will survive us.
It is cheaper to act now than to wait until more drastic measures are needed.
Sincerely,
W. and H. Mattsson

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-03 11:52:02

No Duplicates.

Comment 39 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Malcolm
Last Name: Gaffney
Email Address: malgaff@gmail.com
Affiliation:

Subject: lcfs09
Comment:

```
Please pass.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-03 12:39:11

5 Duplicates.

Comment 40 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mariette
Last Name: Olsen
Email Address: marietteolsen@sbcglobal.net
Affiliation:

Subject: Implemement the Low Carbon Fuel Standard
Comment:

```
Please help residents of the state of California enjoy cleaner air
and a safer future by implementing the low carbon fuel standards. I
think you should consider giving tax breaks to companies and
consumers who manufacture and purchase products that have a smaller
carbon footprint. Consider implementing incentives to bring back
the all electric vehicle as well.
Thank you.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-05 09:56:28

No Duplicates.

Comment 41 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Marsha
Last Name: Chevalier
Email Address: mechevalier@gmail.com
Affiliation:

Subject: LCFS09
Comment:

```
Please support this and other efforts by our Governor and others to
severely decrease our green house gas emissions. We now have the go
ahead from the EPA. Let's make California a leader in climate
recovery!
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-05 12:05:06

No Duplicates.

Comment 42 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: chiho and richard
Last Name: solomon
Email Address: sschihorich@verizon.net
Affiliation:

Subject: LCFS
Comment:

```
As you are preparing to vote on regulations adopting California's
LCFS this month, we ask that you vote in favor of these
regulations.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-05 19:29:59

No Duplicates.

Comment 43 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Brown
Email Address: rcbrown@iastate.edu
Affiliation: Iowa State University

Subject: Low Carbon Fuel Standard and Indirect Land Use
Comment:

```
see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/47-letter_to_carb_on_iluc__final_.pdf

Original File Name: Letter to CARB on ILUC (FINAL).pdf

Date and Time Comment Was Submitted: 2009-04-06 04:11:27

No Duplicates.

Comment 44 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: D Raj
Last Name: Raman
Email Address: rajraman@iastate.edu
Affiliation: Iowa State University

Subject: LCFS Concerns
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/48-raman_letter_to_carb_on_iluc.pdf

Original File Name: Raman Letter to CARB on iLUC.pdf

Date and Time Comment Was Submitted: 2009-04-06 06:41:47

No Duplicates.

Comment 45 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Chuck
Last Name: White
Email Address: cwhite1@wm.com
Affiliation:

Subject: Coalition to LFG to Low Carbon Fuel
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/50-coalition_lfg-lcfs_response_4-6-09.pdf

Original File Name: Coalition LFG-LCFS Response 4-6-09.pdf

Date and Time Comment Was Submitted: 2009-04-07 10:00:02

No Duplicates.

Comment 46 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Nickolas
Last Name: Themelis
Email Address: Non-web submitted comment
Affiliation:

Subject: Columbia University- Earth Engineering Center
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/51-lcfscolumbia0001.pdf

Original File Name: lcfscolumbia0001.pdf

Date and Time Comment Was Submitted: 2009-04-07 10:53:12

No Duplicates.

Comment 47 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jennifer
Last Name: Canvasser
Email Address: Non-web submitted comment
Affiliation:

Subject: Form Letter 2- Strongly Support LCFS
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/52-jcanvasser0001.pdf

Original File Name: jcanvasser0001.pdf

Date and Time Comment Was Submitted: 2009-04-07 10:56:35

72 Duplicates.

Comment 48 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Charles
Last Name: Alexander
Email Address: sushibar@excite.com
Affiliation:

Subject: in_re_Staff_Report_(Biofuels_(Food_vs_Fuel_Analysis))
Comment:

```
To read comment, please read attached .rtf file.  Thank you.
```

Attachment: www.arb.ca.gov/lists/lcfs09/53-in_re_staff_report__biofuels__food_vs_fuel_analysis__.rtf

Original File Name: in_re_Staff_Report_(Biofuels_(Food_vs_Fuel_Analysis)).rtf

Date and Time Comment Was Submitted: 2009-04-07 13:28:08

No Duplicates.

Comment 49 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Charles
Last Name: Alexander
Email Address: sushibar@excite.com
Affiliation:

Subject: External GHG Credits
Comment:

```
To read comment, please read attached .rtf file.  Thank you.
```

Attachment: www.arb.ca.gov/lists/lcfs09/54-in_re_staff_report__external_ghg_credits_.rtf

Original File Name: in_re_Staff_Report_(External_GHG_Credits).rtf

Date and Time Comment Was Submitted: 2009-04-07 13:34:47

No Duplicates.

Comment 50 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Randal
Last Name: Friedman
Email Address: randal.friedman@navy.mil
Affiliation: US Navy

Subject: COMMENTS ON LCFS
Comment:

Thank you for recognizing the need to exempt military tactical vehicles from the proposed regulation. In addition to vehicles, however, we wish to add military tactical equipment as well as this must share a common fuel with tactical vehicles consistent with deployment requirements and training realism. We suggest the following addition:

(3) Military tactical vehicles, as defined in 13 CCR §1905(a), and Tactical Support Equipment as defined in Title 17 CCR Section 93116.2 (a)(36).

Thank you

Randal Friedman

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-08 11:42:25

No Duplicates.

Comment 51 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Chris
Last Name: Hagerbaumer
Email Address: chrish@oeconline.org
Affiliation: Oregon Environmental Council

Subject: comments on LCFS proposed regulation
Comment:

The Oregon Environmental Council (OEC) greatly appreciates CARB's hard work developing regulations to establish a Low-Carbon Fuel Standard. The LCFS is an innovative and important approach to tackling global warming, and we are strongly supportive of it.

Lest you wonder why an out-of-state organization is interested in CARB regulations, you should know that the Oregon Department of Environmental Quality will hopefully be given the authority by the Oregon Legislature this session to undertake rulemaking to establish a LCFS in Oregon.

For many years, OEC has worked to support the development and application of a variety of technologies and strategies to reduce greenhouse gas emissions from the transportation sector, including the production of regional, sustainably produced, low-carbon biofuels.

OEC is advocating for a LCFS in Oregon that will harmonize with California’s, and we want to make sure that LCFS implementation is accurate and fair.

The beauty of a LCFS is that it is performance-based, allowing affected companies to meet the standard through a variety of means and avoiding premature conclusions about the “right” technology. Encouraging development of the right technologies hinges upon an even playing field. We are worried that CARB is creating an uneven playing field by choosing to account for the potential indirect carbon effects of biofuels, while not accounting for the potential indirect carbon effects of other fuels.

Indeed, other fuels have indirect carbon effects: for example, the use of natural gas as a vehicle fuel means less natural gas will be available for stationary energy needs, potentially leading to the development of more coal-fired power plants. Likewise, the use of electricity for our transportation needs may increase demand on electricity and push us to dirtier fuels like coal.

Likewise, oil companies are turning to the most polluting, most carbon-intensive means of producing oil – they are disturbing vast tracts of land and harming ecosystems while extracting oil from tar sands. What is the indirect effect of relying on a resource that has peaked? What is the indirect effect of increasing petroleum prices on food prices and the resulting increase of food prices on land use change?

In your draft regulation, you indicate that you believe other

fuels do not have indirect carbon effects. In order for us to be comfortable with that statement, we need to see your analysis. The potential indirect carbon impacts of fuels besides biofuels need to be modeled by CARB, as well.

We believe it is prudent to follow the example of the EU and the recommendations of the 111 scientists who wrote to you on this subject who have called for an initial LCFS based on direct emissions while we take the time necessary to thoroughly assess indirect effects for all fuels.

An even playing field is crucial to responsible implementation of a LCFS.

Thank you very much for your consideration.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-08 16:19:42

No Duplicates.

Comment 52 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Brennan
Email Address: jb@ravensites.net
Affiliation:

Subject: LCFS
Comment:

```
This is a valuable and well written change to the rules in that it
looks toward healthier air in attainable stages.

In addition it further enhances CA as a "look to" state for growth
in the green business sector.  It will help to position CA as a
National leader in this field.

JB
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-08 20:34:56

No Duplicates.

Comment 53 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Pete
Last Name: Montgomery
Email Address: pete@pmontgomeryconsulting.com
Affiliation:

Subject: Clean World Partners comments on LCFS treatment of fuels derived from waste
Comment:

```
Please accept these comments regarding the LCFS treatment of fuels
developed from waste on behalf of Clean World Partners.
```

Attachment: www.arb.ca.gov/lists/lcfs09/60-carb_-_lcfs_letter_cwp.doc

Original File Name: CARB - LCFS letter CWP.doc

Date and Time Comment Was Submitted: 2009-04-09 12:18:09

No Duplicates.

Comment 54 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Maira
Last Name: Rodriguez
Email Address: Non-web submitted comment
Affiliation:

Subject: Form Letter 3- 2010 California Diesel Fuel Reformulation
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/61-lsfcpetition0001.pdf

Original File Name: lsfcpetition0001.pdf

Date and Time Comment Was Submitted: 2009-04-09 14:53:06

501 Duplicates.

Comment 55 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Cordes
Email Address: johncordes@yahoo.com
Affiliation: Sierra Club

Subject: better limits in low carbon fuel standard
Comment:

```
Hello,
   I want the low carbon fuel standard to be set so it takes into
account the full carbon  impact of fuels like corn ethanol and tar
sands source. It needs to spurn innovative new fuel source like
algae or bacteria processes which can generate fuel with a smaller
carbon footprint.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-09 20:02:48

No Duplicates.

Comment 56 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Carol
Last Name: Werner
Email Address: cwerner@eesi.org
Affiliation:

Subject: Environmental and Energy Study Institute (EESI) letter regarding inclusion of ILUC in LCFS
Comment:

March 16, 2009

Mary D. Nichols, Chairwoman

California Air Resources Board

Headquarters Building

1001 â€œIâ€• Street

Sacramento, CA 95812

Chairwoman Nichols:

Reducing greenhouse gas emissions from transportation fuels is an important and urgent challenge for both California and our nation. It is one of the many hurdles that our nation will need to overcome if we are to address the climate crisis effectively and quickly. We at the Environmental and Energy Study Institute commend the staff of the California Air Resources Board for its thoughtful effort and leadership to establish a low carbon fuel standard â€“ for the State of California and as a model for the nation.

However, we are writing to express our concern that the excellent work the staff has done to assess the direct life cycle carbon emissions of various fuels, based upon scientifically sound and generally accepted methodologies, is significantly undermined by the inclusion of indirect carbon emissions from land use changes attributed to biofuels production, about which there is very little consensus in the scientific community. Scientists are only just beginning to explore the indirect relationships (if any) between biofuels production in the U.S. and land use changes around the world. To base such a critical policy decision upon such an uncertain and unsettled body of knowledge inserts a significant, unfounded bias against a class of fuels which may offer, in the final analysis, great promise in meeting our nationâ€™s pressing climate and energy challenges.

Traditional life cycle assessments include only what have come to be known as â€˜direct emissionsâ€™. Direct emissions include the carbon contents of the fuel itself, as well as the greenhouse gases released during each stage of production (from â€œwell to wheelsâ€•). Direct emissions are measurable, attributable, and described in well-tested models (such as the GREET model).

â€œIndirect emissionsâ€•, on the other hand, are those emissions that are assumed to occur somewhere in the world as a result of general market forces exerted by the production of a particular kind of fuel â€“ in this case, the greenhouse gas emissions thought to be released from tropical deforestation and other land use changes as an indirect, market-driven result of farmland in the U.S. being diverted away from food or feed crops to growing biofuel crops. Unlike direct emissions, indirect emissions cannot be observed, measured in situ or attributed to particular production chains.

The CARB staff is calculating these indirect emissions using a general equilibrium model to estimate aggregate emissions from land use change at the global level due to the impact of U.S. biofuel production on global markets. General equilibrium models simulate changes and trends in commodity production by assuming a closed system that seeks economic â€˜equilibriumâ€™ as determined by regional constraints of supply and demand. These models, however, are especially sensitive to the assumptions underlying the inputs and processes included in the model. In particular, assumptions regarding the supply of agricultural land, the availability of marginal lands, farmer behavior, agricultural production practices, economic value and use of biofuel co-products, and competing uses for land and natural resources, substantially affect model results. Determining the â€˜rightâ€™ assumptions and assigning values can be a highly subjective process over which scientists, policymakers, and stakeholders frequently disagree.

Confounding the problem further is the difficulty of determining additionality. Even if one assumes that biofuel production is the proximate cause of a certain amount of deforestation, one cannot assume that those forests would have otherwise remained intact in the absence of biofuel production. There are many causes of deforestation and land use change â€“ timber demand, livestock grazing, mining, urban sprawl, global food and feed demand, and subsistence activities. People continually seek to realize the highest value from the land. If biofuels are removed as a market driving factor, other factors will likely fill the void. In sum, using these models to calculate indirect emissions remains a highly subjective and speculative process, dependent on a number of a priori assumptions that bias the outcome.

There is another, more fundamental issue with including indirect emissions in the LCFS assessment: this concerns the precedent of holding an industry in the U.S. responsible for activities (real or supposed) undertaken by people across distant borders in other sovereign nations. If this standard is to be applied to biofuels, in fairness, should it not also be applied to the assessment of fossil fuels, hydrogen, and electricity? On a broader level, is this a new standard to which other industries and public policy decisions should be held? The analysis of indirect effects could be applied to regulate against a host of other economic and social activities. All large scale activities that use scarce resources, affect markets, or influence economic or social behavior are likely to have some distant, indirect effects.

Global deforestation, conversion of native grasslands and shrublands, and ecosystem degradation are very real problems, with impacts on biodiversity, water security, and the welfare of indigenous peoples. These land use changes have been accelerating for decades, driven by many factors â€“ long before the U.S. biofuel industry came on the scene. The resulting greenhouse gas

emissions are huge, amounting to over 18% of total global emissions. The international community must work together with urgency and speed â€“ through international negotiations, treaties, and financial and technical assistance - to prevent further loss of forests and ecosystems across the globe.

Including indirect emissions from land use change in the LCFS, however, is not likely to promote the stable climate and healthy ecosystems that we all seek. Instead, it will only reduce the political legitimacy of the LCFS as a fair and objective tool for comparing fuel options and unfairly penalize an industry that offers great promise for addressing the nationâ€™s climate and energy challenges. If the LCFS is to be an objective, technology-neutral assessment tool, it must treat all fuels equitably, using consistent, generally accepted, scientific criteria and methods. Otherwise, it will merely serve to reinforce the predispositions of the modelers.

Sincerely,

Carol Werner

Executive Director, Environmental and Energy Study Institute

Cc: The Honorable Arnold Schwarzenegger, Governor of California

David Crane, Special Advisor for Jobs and Economic Growth, Office of Governor Schwarzenegger

Linda Adams, Secretary, California Department of Food & Agriculture

Mike Scheible, Deputy Director, Air Resources Board

Karen Douglas, Chairwoman, California Energy Commission

Attachment: www.arb.ca.gov/lists/lcfs09/65-lcfs_iluc_letter_031609.pdf

Original File Name: lcfs_iluc_letter_031609.pdf

Date and Time Comment Was Submitted: 2009-04-10 11:53:48

No Duplicates.

Comment 57 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Blake
Last Name: Simmons
Email Address: basimmons@lbl.gov
Affiliation:

Subject: Concerns over selective inclusion of indirect land use change on biofuels
Comment:

The attached letter outlines the concerns several (111) scientists have over the selective inclusion of an indirect land use change metric on biofuels under the proposed LCFS, and that the model and the science behind indirect land use change is too nascent to be included at the current time.

We urge the ARB to develop a fair, robust, and open science- and data-based metric, as well as opening the ARB process to other models and methodologies other than GTAP, to evalaute indirect land use change for all fuels that will be evaluated with the LCFS.

Attachment: www.arb.ca.gov/lists/lcfs09/66-28-phd_lcfs_mar09.pdf

Original File Name: 28-phd_lcfs_mar09.pdf

Date and Time Comment Was Submitted: 2009-04-10 12:14:34

No Duplicates.

Comment 58 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Brooke
Last Name: Coleman
Email Address: bcoleman@newfuelsalliance.org
Affiliation: New Fuels Alliance

Subject: Advanced Biofuel Companies Opposed to Selective Enforcement of Indirect Effects
Comment:

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Please accept the following letter to the docket signed by 25+
advanced biofuels companies and interests. The signers expressed
concerns about singling out biofuels for enforcement of indirect
effects, and called for a comprehensive analysis of indirect
effects for all fuels before enforcement against one type of fuel.
The letter is signed by leading advanced biofuels companies,
including Gevo, Verenium, BlueFire, ZeaChem, Range Fuels, Mascoma
and Qteros/SunEthanol.
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Attachment: www.arb.ca.gov/lists/lcfs09/67-nfa_arb_luc_final.pdf

Original File Name: NFA_ARB_LUC_Final.pdf

Date and Time Comment Was Submitted: 2009-04-10 12:42:49

No Duplicates.

Comment 59 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joe
Last Name: Salazar
Email Address: Non-web submitted comment
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

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please see attached
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Attachment: www.arb.ca.gov/lists/lcfs09/69-joe.pdf

Original File Name: Joe.pdf

Date and Time Comment Was Submitted: 2009-04-10 13:32:33

No Duplicates.

Comment 60 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bill
Last Name: Holmberg
Email Address: Non-web submitted comment
Affiliation:

Subject: Biomass Coordinating Council
Comment:

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please see attached
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Attachment: www.arb.ca.gov/lists/lcfs09/70-bill.pdf

Original File Name: Bill.pdf

Date and Time Comment Was Submitted: 2009-04-10 13:33:44

No Duplicates.

Comment 61 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Gladwyn
Last Name: d'Souza
Email Address: godsouza@mac.com
Affiliation:

Subject: LCFS
Comment:

California is developing a Low Carbon Fuel Standard (LCFS). As global warming is primarily a problem of putting too much carbon dioxide in the atmosphere when we burn fossil fuels, the LCFS would not only spur a whole new generation of cleaner transportation fuels, but also protect against much dirtier, high-carbon fuels, such as liquid coal or tar sands.

But corn ethanol companies, and some others in the fuels industry, are working hard to weaken the standard. Please don't let these companies water down the standard. Corn ethanol is bad for the planet, healthy water systems, and it steals food from people.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-10 16:59:40

No Duplicates.

Comment 62 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Michele
Last Name: Marra
Email Address: michele_marra@ncsu.edu
Affiliation:

Subject: Comments on the iLUC provision of the LCFS
Comment:

```
Chair, Air Resources Board
California Environmental Protection Agency

Please see attached our comments regarding the proposed indirect
Land Use Change penalty proposed for corn ethanol use in the Low
Carbon Fuel Standard regulation.

Thank you,
Michele C. Marra, Ph.D.
North Carolina State University
Raleigh, NC 27695-8109
```

Attachment: www.arb.ca.gov/lists/lcfs09/74-goodwin_marra_piggott_comments_iluc_lcfs.pdf

Original File Name: goodwin_marra_piggott_comments_iLUC_LCFS.pdf

Date and Time Comment Was Submitted: 2009-04-13 09:50:47

No Duplicates.

Comment 63 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Thomas
Last Name: Alspaugh
Email Address: talspaugh@sandiego.gov
Affiliation: City of San Diego

Subject: Low Carbon Fuel Stanards GREET model
Comment:

Please find attached at letter from the County Sanitation Districts of Los Angeles County (LA County San) to Ms Mary Nichols of the Claifornia Air Resources Board dated Febuary 23, 2009 on " Consideration of Waste-Derived Alternative Fuels in the Proposed Low Carbon Fuel Standardd (LCFS)" . The City of San Diego's Metropolitan Wastewater Department fully supports the comments made by LA County San in this letter. Additionally we would like CARB to know that the City of San Diego has a contract in place to process 1.3 million standard cubic feet per day of our waterwater biosolids derived digested gas into Bio Compressed Natural Gas or Bio-CNG. Please take the comments addressed in the attached letter seriously. Thank you. Tom Alspaugh,PE Senior Mechanical

Attachment: www.arb.ca.gov/lists/lcfs09/75-consideration_for_waste-derived_alternative_fuels_in_the_proposed_low_carbon_fuel_standard__2_.pdf

Original File Name: Consideration for Waste-Derived Alternative Fuels in the Proposed Low Carbon Fuel Standard (2).pdf

Date and Time Comment Was Submitted: 2009-04-13 09:57:58

No Duplicates.

Comment 64 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: David
Last Name: Rubin
Email Address: d.rubin@att.net
Affiliation:

Subject: LCFS09
Comment:

Ladies and Gentlemen:

I write to you in support of the Low Carbon Fuel Standar (LCFS) that has the support and backing of the Governor.

As global warming and climate change are now an intergal part of how we humans must live in this world, it is time that serious measures be put in place to combat and reduce the effects of global warming. The fact that Governor Schwarzenegger has proposed this measure is an important step in that fight.

While the rest of this nation may dither and argue over whether or not we need such drastic standards, I am here to tell you we do. We as Californian's need to show the rest of the country and the world at large that we intend to do something about global warming and we intend to do it alone if necessary. It is important to the health of every Californian and especially our children. To do nothing is to endanger all lives effected by cabron emissions and especially the most vulnerable in this state including our youth, our elederly and those whose health for whatever reason has been compromised.

California has always been in the forefront of either proposing or enacting change in various levels. The time has come once again to assert our leadership and bring about that change by enacting the LCFS.

Therefore and in conclusion, I most respectfully request that the Board approve the LCFS and once again demonstrate to the resto of the world that not only is California ready to lead but that it is strong in its conviction to show that leadership.

I remain,

Respectfully yours,

David R. Rubin
Los Angeles, CA

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-13 10:41:49

No Duplicates.

Comment 65 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Darrel
Last Name: Good
Email Address: d-good@illinois.edu
Affiliation: University of Illinois

Subject: Comment Letter from Darrel Good and Scott Irwin
Comment:

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A comment letter is attached
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Attachment: www.arb.ca.gov/lists/lcfs09/77-california_indirect_land_use_good_irwin.pdf

Original File Name: California Indirect Land Use_Good_Irwin.pdf

Date and Time Comment Was Submitted: 2009-04-13 13:38:30

No Duplicates.

Comment 66 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: F. Jon
Last Name: Holzfaster
Email Address: kelly.brunkhorst@nebraska.gov
Affiliation: Nebraska Corn Board

Subject: Comments on Proposed LCFS
Comment:

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Please see attached file.
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Attachment: www.arb.ca.gov/lists/lcfs09/78-carb_lcfs_submitted_comments.pdf

Original File Name: CARB LCFS Submitted Comments.pdf

Date and Time Comment Was Submitted: 2009-04-13 13:44:27

No Duplicates.

Comment 67 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: James
Last Name: Armstrong
Email Address: randy.armstrong@shell.com
Affiliation: Shell Oil Company

Subject: Comments For Proposed Low Carbon Fuel Standard Regulations
Comment:

Thank you for letting Shell have this opportunity to comment on California Air Resource Board's Proposed Low Carbon Fuel Standard.

Attached are three documents. One is an overview of our comments, the second is detailed comments and the third is an overview of initiatives Shell is involved in on developing sustainability standards for biofuels.

You may contact Clay Calkin at 925-313-3321 if you have any questions concerning these comments.

Attachment: www.arb.ca.gov/lists/lcfs09/79-shell_oil_company_attachments.doc

Original File Name: Shell Oil Company Attachments.doc

Date and Time Comment Was Submitted: 2009-04-13 14:12:24

No Duplicates.

Comment 68 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joseph
Last Name: Irvin
Email Address: jirvin@calevc.org
Affiliation: CA Ethanol Vehicle Coalition

Subject: Low Carbon Fuel Standard - Current Concerns
Comment:

```
Greetings - attached please find my letter of concern regarding the
Low Carbon Fuel Standard regulation as currently proposed by staff.
Please contact me if any technical difficulties with opening or
reading the file. Thanks much,
Joe Irvin
```

Attachment: www.arb.ca.gov/lists/lcfs09/80-cevc-lcfs-ltr.pdf

Original File Name: CEVC-LCFS-LTR.pdf

Date and Time Comment Was Submitted: 2009-04-13 14:33:22

No Duplicates.

Comment 69 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Caitlyn
Last Name: Toombs
Email Address: caitlyn@environmentcalifornia.org
Affiliation: Environment California

Subject: Environment California comments for LCFS
Comment:

```
Please see attachment.
```

Attachment: www.arb.ca.gov/lists/lcfs09/83-new_lcfs_comments.pdf

Original File Name: New LCFS Comments.pdf

Date and Time Comment Was Submitted: 2009-04-13 15:49:41

No Duplicates.

Comment 70 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Simon
Last Name: Mui
Email Address: smui@nrdc.org
Affiliation:

Subject: Accounting for High Carbon-Intensity Fuels
Comment:

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Please see attached.
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Attachment: www.arb.ca.gov/lists/lcfs09/84-support_for_accounting_of_high_carbon_fuels.pdf

Original File Name: Support for Accounting of High Carbon Fuels.pdf

Date and Time Comment Was Submitted: 2009-04-13 19:04:59

No Duplicates.

Comment 71 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Todd
Last Name: Sneller
Email Address: todd.sneller@nebraska.gov
Affiliation:

Subject: Comments on ARB's Proposed LCFS
Comment:

Dear CARB Officials :
The attached document titled , " Critique of Transparency in CARB LCFS Methods " , focuses on the inadequacy of the LCFS methods proposed for corn grain ethanol. This document was previously sent to you by its authors, including Ken Cassman and Adam Liska. The Nebraska Ethanol Board, a state agency established in 1971, concurs with the comments previously provided by Dr. Cassman. Our support of this position is based in part on the fact that far more precise actual operating data from ethanol plants is readily available from state regulatory agencies in several states including Nebraska and Iowa. The decision to not include the more recent data, which reports actual operating data and emissions, is not a defensible position for state rulemaking agencies in our opinion. To base a compliance standard on outdated "default" data is simply not an approach that encourages or supports "best practices". As a result, real world environmental impacts will ultimately be discouraged rather than embraced. The proposed CARB LCFS does not reflect the best science or the best compliance matrix under which to measure or encourage the best environmental outcomes. Data currently available can and should be used in an effort to promote the best results if transportation carbon reduction is the goal of a proposed LCFS.

Submitted by:
Todd C. Sneller
Administrator
Nebraska Ethanol Board

Attachment: www.arb.ca.gov/lists/lcfs09/85-9-03-31_critique_of_transparency_in_carb_lca_methods.pdf

Original File Name: 9-03-31 Critique of Transparency in CARB LCA methods.pdf

Date and Time Comment Was Submitted: 2009-04-14 06:56:49

No Duplicates.

Comment 72 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Sexten
Email Address: sextenj@missouri.edu
Affiliation:

Subject: Co-product credit analysis for LCFS
Comment:

Comments attached regarding incomplete information and technical inaccuracies related to distillers dried grains with solubles (DDGS) presented within Appendix C11, “Co-product credit analysis when using distillers grains derived from corn ethanol production”, of the proposed regulations to implement the Low Carbon Fuel Standard (LCFS).

Thank you,

Justin Sexten

Attachment: www.arb.ca.gov/lists/lcfs09/86-letter_to_ca_epa_air_resources_board_regarding_co-product_credit_analysis_appendix_c11.pdf

Original File Name: Letter to CA EPA Air Resources Board regarding Co-product Credit Analysis Appendix C11.pdf

Date and Time Comment Was Submitted: 2009-04-14 07:41:24

No Duplicates.

Comment 73 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Caupert
Email Address: jcaupert@ethanolresearch.com
Affiliation: NCERC

Subject: CARB - DDGS Review
Comment:

```
Please view my comments regarding the CARB - DDGS review.

Many thanks,
John
```

Attachment: www.arb.ca.gov/lists/lcfs09/87-review_-_carb_ddgs__-_john_caupert_4-05-09__1_.doc

Original File Name: Review - CARB DDGS - John Caupert 4-05-09 (1).doc

Date and Time Comment Was Submitted: 2009-04-14 08:43:50

No Duplicates.

Comment 74 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Caupert
Email Address: jcaupert@ethanolresearch.com
Affiliation: NCERC

Subject: CARB - DDGS Review
Comment:

```
Comments from NCERC Research Director, Brian Wrenn regarding New
Technologies in Dry Grind ethanol production

Many thanks,
John
```

Attachment: www.arb.ca.gov/lists/lcfs09/88-statement-energy_usage-ethanol-_4-14-09.doc

Original File Name: Statement-Energy Usage-Ethanol- 4-14-09.doc

Date and Time Comment Was Submitted: 2009-04-14 08:45:03

No Duplicates.

Comment 75 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Caupert
Email Address: jcaupert@ethanolresearch.com
Affiliation: NCERC

Subject: CARB - DDGS Review
Comment:

```
Comments from NCERC Assistant Director, Analytical Research, Yan
Zhang, regarding CARB - DDGS Review.

Many thanks,
John
```

Attachment: www.arb.ca.gov/lists/lcfs09/89-review_-_carb_ddgs_-_yan_zhang_4-05-09.doc

Original File Name: Review - CARB DDGS - Yan Zhang 4-05-09.doc

Date and Time Comment Was Submitted: 2009-04-14 08:46:04

No Duplicates.

Comment 76 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kate
Last Name: McMahon
Email Address: KMcMahon@foe.org
Affiliation: Friends of the Earth

Subject: Environmental CEO Letter of Support for ILUC in LCFS
Comment:

Center for International Environmental Law
Clean Water Action
Defenders of Wildlife
Environment America
Environmental Defense Fund
Friends of the Earth
Natural Resources Defense Council
National Parks Conservation Association
National Wildlife Federation
Union of Concerned Scientists

Mary Nichols
Chairman, California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

April 14, 2009

Dear Chairman Nichols,

On behalf of our millions of members and activists, we voice our support for the Low Carbon Fuel Standard (LCFS) and urge the Air Resources Board to account for indirect emissions from land use changes in the standard.

The California LCFS sets a critical precedent as the world's first regulation to require reductions in greenhouse gas emissions from transportation fuels. To achieve these reductions, the LCFS must account for the full lifecycle inventory of greenhouse gas emissions caused by biofuel production, including both direct emissions and indirect emissions from land use change. Ignoring the emissions from indirect land use change will undermine the environmental benefits of the LCFS and set a poor precedent for any future policies attempting to reduce global warming pollution from transportation and other sectors. Furthermore, excluding these emissions from the regulation would directly contradict the best available science.

CARB has already performed significant work to analyze and model these types of emissions. The analysis of indirect emissions is complex, indeed, but numerous academic studies have developed calculations for these types of emissions. Over the past two years, ARB together with teams of scientists and economists from the University of California and Purdue University have drawn from the

best available information and peer-reviewed models to account for these emissions. Their results show that these emissions are significant and cannot be ignored. Moving ahead with a rule but delaying or omitting the inclusion of indirect land use effects in the model would imply that farmland is limitless, and would ignore the major impact of agriculture and deforestation on the climate. This is clearly not supported by the science and is inconsistent with the goal of providing real reductions in greenhouse gas emissions.

We look forward to the Board's approval of this rule incorporating indirect land use change and thank you in advance for addressing our concerns.

Sincerely,

Daniel Magraw
President
Center for International Environmental Law

John DeCock
President
Clean Water Action

Rodger Schlickeisen
President
Defenders of Wildlife

Margie Alt
Executive Director
Environment America

Fred Krupp
President
Environmental Defense Fund

Brent Blackwelder
President
Friends of the Earth

Frances Beinecke
President
Natural Resources Defense Council

Tom Kiernan
President
National Parks Conservation Association

Larry Schweiger
President and CEO
National Wildlife Federation

Kevin Knobloch
President
Union of Concerned Scientists

CC: Governor Arnold Schwarzenegger
Secretary Linda Adams, Cal/EPA
Board Members, California Air Resources Board
Mr. James Goldstene, Executive Officer, California Air Resources

Board

Attachment: www.arb.ca.gov/lists/lcfs09/90-iluc_letter_to_carb__ceo__final.pdf

Original File Name: ILUC Letter to CARB _CEO_ FINAL.pdf

Date and Time Comment Was Submitted: 2009-04-14 09:45:38

No Duplicates.

Comment 77 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Hans H
Last Name: Stein
Email Address: hstein@uiuc.edu
Affiliation: Univ. of Illinois

Subject: Proposed Regulation to Implement the Low Carbon Fuel Standard, Volume II, Appendices
Comment:

```
To whome it may concern,

I have become aware of the report entitled "Proposed Regulation to
Implement the Low Carbon Fuel Standard, Volume II, Appendices" and
I am very surprised to see the conclusions in this report. As an
animal nutritionist with expertise in the utilization of DDGS by
swine, I do believe that the authors of this report have grossly
misrepresented the scientific evidence on feeding DDGS to swine.
DDGS has a much greater value in diets fed to swine than the value
of corn. Sometimes (depending on the price relationship between
corn and soybean meal)the value of DDGS is almost twice as high as
the value of corn.
I have prepared the enclosed report to refute some of the most
obvious mistakes in Appendix 11 and I am also including a few
general comments about feeding DDGS to swine and the economics of
using DDGS. I encourage you to consider these comments before final
conclusions on the subject of assesing a value to DDGS is reached.
If you should have any questions on this matter, please don't
hesitate contacting me.

Sincerely,
Hans H Stein
```

Attachment: www.arb.ca.gov/lists/lcfs09/91-feeding_ddgs_to_swine__hans_h_stein__april_9__2009..doc

Original File Name: Feeding DDGS to Swine, Hans H Stein, April 9, 2009..doc

Date and Time Comment Was Submitted: 2009-04-14 11:41:25

No Duplicates.

Comment 78 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mike
Last Name: Edgerton
Email Address: mike.edgerton@monsanto.com
Affiliation: Monsanto

Subject: Comments on methods to estimate iLUC
Comment:

```
Thank you for considering the attached comments on methods for
estimation of indirect land use change in the California Air
Resource Board's Proposed Low Carbon Fuel Standard.
```

Attachment: www.arb.ca.gov/lists/lcfs09/92-lcfs_comments_-_14_april_2009.pdf

Original File Name: LCFS comments - 14 April 2009.pdf

Date and Time Comment Was Submitted: 2009-04-14 12:57:14

No Duplicates.

Comment 79 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Linsey
Last Name: Marr
Email Address: Non-web submitted comment
Affiliation: VirginiaTech College of Engineering

Subject: Prof Marr_VirginiaTech (Peer Review 1 of 4)
Comment:

```
Prof. Marr's peer review comments on the LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/93-prof_marr_virginiatech__peer_review_1_of_4_.pdf

Original File Name: Prof Marr_VirginiaTech (Peer Review 1 of 4).pdf

Date and Time Comment Was Submitted: 2009-04-14 17:44:37

No Duplicates.

Comment 80 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Reilly
Email Address: Non-web submitted comment
Affiliation: Massachussetts Institute of Technology

Subject: Prof Reilly_MIT (Peer Review 2 of 4)
Comment:

```
Prof. Reilly's peer review comments on the LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/94-prof_reilly_mit__peer_review_2_of_4_.pdf

Original File Name: Prof Reilly_MIT (Peer Review 2 of 4).pdf

Date and Time Comment Was Submitted: 2009-04-14 17:46:09

No Duplicates.

Comment 81 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Valerie
Last Name: Thomas
Email Address: Non-web submitted comment
Affiliation: Georgia Institute of Technology

Subject: Prof Thomas_GeorgiaTech (Peer Review 3 of 4)
Comment:

```
Prof. Thomas' peer review comments on the LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/95-prof_thomas_georgiatech__peer_review_3_of_4_.pdf

Original File Name: Prof Thomas_GeorgiaTech (Peer Review 3 of 4).pdf

Date and Time Comment Was Submitted: 2009-04-14 17:47:11

No Duplicates.

Comment 82 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Denise
Last Name: Mauzerall
Email Address: Non-web submitted comment
Affiliation: Princeton University

Subject: Prof Mauzerall_Princeton (Peer Review 4 of 4)
Comment:

```
Prof. Mauzerall's peer review comments on the LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/96-prof_mauzerall_princeton__peer_review_4_of_4_.pdf

Original File Name: Prof Mauzerall_Princeton (Peer Review 4 of 4).pdf

Date and Time Comment Was Submitted: 2009-04-14 17:48:26

No Duplicates.

Comment 83 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: David
Last Name: Bruderly
Email Address: bruderly@bellsouth.net
Affiliation: Clean Power Engineering

Subject: Please adapt standards that significantly reduce emissions
Comment:

South Florida and coastal Florida will soon feel the adverse impacts of rising sea level due to climate change. Even a small increase will be an economic disaster for millions of unsuspecting people. For this reason, I strongly support a adoption of a low carbon fuel standard that will significantly reduce greenhouse gas emissions from motor vehicles both through efficiency and conversion to low carbon motor fuels. It is a sad fact that lawmakers in Florida do not have the collective wisdom to respond rationally to this threat. Therefore it is essential that California act with dispatch and clarity on this issue; Florida will eventually follow your lead. Decisive action by California will accelerate the immediate deployment of low carbon motor fuels and thus make it easier for other states to follow your lead and replicate and / or adopt the standard by reference.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-14 18:53:37

No Duplicates.

Comment 84 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Richard
Last Name: Ruebe
Email Address: rruebe@illinoisriverenergy.com
Affiliation: Illinois River Energy, LLC

Subject: LCFS09
Comment:

```
See attached letter from Richard Ruebe, CEO, Illinois River Energy,
LLC.
```

Attachment: www.arb.ca.gov/lists/lcfs09/98-lcfs_letter.pdf

Original File Name: LCFS letter.pdf

Date and Time Comment Was Submitted: 2009-04-15 06:37:00

No Duplicates.

Comment 85 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bob
Last Name: Stallman
Email Address: kendrak@fb.org
Affiliation: The American Farm Bureau Federation

Subject: Comments from The American Farm Bureau Federation
Comment:

```
The attached letter was sent to Governor Schwarzenegger last month
regarding the low carbon fuel standard.
```

Attachment: www.arb.ca.gov/lists/lcfs09/101-energy-lcfs-calif09.0320.pdf

Original File Name: energy-lcfs-calif09.0320.pdf

Date and Time Comment Was Submitted: 2009-04-15 08:20:49

No Duplicates.

Comment 86 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Dwayne
Last Name: Siekman
Email Address: dsiekman@ohiocorn.org
Affiliation:

Subject: Ohio's Comments on LCFS
Comment:

```
The Ohio Corn Growers Association submit the attached comments
regarding the California Air Resources Board proposed regulation to
implement the Low Carbon Fuel Standard.
```

Attachment: www.arb.ca.gov/lists/lcfs09/104-ocga_carb_letter.doc

Original File Name: OCGA CARB Letter.doc

Date and Time Comment Was Submitted: 2009-04-15 10:26:32

No Duplicates.

Comment 87 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Roddy
Email Address: williamr@icminc.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

```
ICM comments (followed by 2 attachements)
```

Attachment: www.arb.ca.gov/lists/lcfs09/108-administrator_icminc_com_20090415_103800.pdf

Original File Name: administrator@icminc com_20090415_103800.pdf

Date and Time Comment Was Submitted: 2009-04-15 11:10:32

No Duplicates.

Comment 88 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Roddy
Email Address: williamr@icminc.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

```
ICM attachment to letter
```

Attachment: www.arb.ca.gov/lists/lcfs09/109-icm_carbon_letter_bill_roddy_3_23_09__3_.pdf

Original File Name: ICM Carbon letter_Bill Roddy_3_23_09 (3).pdf

Date and Time Comment Was Submitted: 2009-04-15 11:12:06

No Duplicates.

Comment 89 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Roddy
Email Address: williamr@icminc.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

```
Attachment #2 to ICM comments
```

Attachment: www.arb.ca.gov/lists/lcfs09/110-econergy_paper_final_2_17_09__3_.pdf

Original File Name: Econergy Paper Final_2_17_09 (3).pdf

Date and Time Comment Was Submitted: 2009-04-15 11:14:17

No Duplicates.

Comment 90 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Christopher
Last Name: Standlee
Email Address: cstandlee@bioenergy.abengoa.com
Affiliation: Abengoa Bioenergy

Subject: Letter from Second-Generation Biofuels Companies
Comment:

```
We are submitting these comments regarding the LCFS on behalf of 12
leading companies engaged in the commercialization of advanced and
cellulosic biofuels.  Please replace my prior comments posted
earlier this morning with the attached letter.
Thank you.
```

Attachment: www.arb.ca.gov/lists/lcfs09/111-advanced_biofuels_ltr_to_carb_4-15-09.pdf

Original File Name: Advanced Biofuels Ltr to CARB 4-15-09.pdf

Date and Time Comment Was Submitted: 2009-04-15 12:06:04

No Duplicates.

Comment 91 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Alex
Last Name: Menotti
Email Address: amenotti@kelleydrye.com
Affiliation: Choren USA

Subject: LCFS Comments
Comment:

```
Attached please find Choren USA's comments on the proposed LCFS.

Sincerely,

Alex Menotti
```

Attachment: www.arb.ca.gov/lists/lcfs09/112-choren_comments.zip

Original File Name: CHOREN Comments.zip

Date and Time Comment Was Submitted: 2009-04-15 14:04:35

No Duplicates.

Comment 92 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jerry
Last Name: Shurson
Email Address: shurs001@umn.edu
Affiliation:

Subject: Comments on Argonne Laboratory and CARB Appendix related to DGS use in livestock feeds
Comment:

```
See my comments related to the misinformation in the CARB appendix
related to land use credits for DGS
```

Attachment: www.arb.ca.gov/lists/lcfs09/113-rfa_analysis_of_current_feeding_practices_of_distiller_final_3-25-09.pdf

Original File Name: RFA Analysis of Current Feeding Practices of Distiller final 3-25-09.pdf

Date and Time Comment Was Submitted: 2009-04-15 14:13:18

No Duplicates.

Comment 93 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Taylor
Last Name: Miller
Email Address: Tmiller@Sempra.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

```
Comments from Sempra Energy on the Low Carbon Fuel Standard
```

Attachment: www.arb.ca.gov/lists/lcfs09/114-carb.sempraenergy_cmts_re_lcfs.4.15.09.pdf

Original File Name: CARB.SempraEnergy Cmts re LCFS.4.15.09.pdf

Date and Time Comment Was Submitted: 2009-04-15 16:10:25

No Duplicates.

Comment 94 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Pacific Forest Trust
Last Name: The
Email Address: pmason@pacificforest.org
Affiliation:

Subject: Pacific Forest Trust comments on the LCFS
Comment:

```
Thank you very much for the opportunity to provide comment, and for
your consideration.

Rachael Katz
Pacific Forest Trust
```

Attachment: www.arb.ca.gov/lists/lcfs09/115-pft_lcfs_comments_4.15.09.pdf

Original File Name: PFT LCFS comments 4.15.09.pdf

Date and Time Comment Was Submitted: 2009-04-15 17:39:44

No Duplicates.

Comment 95 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jamie
Last Name: Hall
Email Address: jhall@calstart.org
Affiliation:

Subject: CALSTART comments on proposed LCFS
Comment:

```
Please see attached comments.
```

Attachment: www.arb.ca.gov/lists/lcfs09/116-calstart_comments_on_proposed_lcfs_4-15-09.pdf

Original File Name: CALSTART comments on proposed LCFS 4-15-09.pdf

Date and Time Comment Was Submitted: 2009-04-15 21:56:10

No Duplicates.

Comment 96 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jamie
Last Name: Knapp
Email Address: jamie@jknappcommunications.com
Affiliation:

Subject: Environmental Support for LCFS
Comment:

```
Comments attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/117-lcfs-env-sign-on_letter-final.pdf

Original File Name: LCFS-env-sign-on letter-final.pdf

Date and Time Comment Was Submitted: 2009-04-15 22:51:16

No Duplicates.

Comment 97 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bob
Last Name: Epstein
Email Address: bob@e2.org
Affiliation:

Subject: Letter of Support for Adoption of LCFS
Comment:

```
Attached is our letter of support for the adoption of the LCFS at
the April 23 Board meeting. The letter represents individuals from
16 different organizations active in the biofuels industry. We have
included three specific recommendations.
```

Attachment: www.arb.ca.gov/lists/lcfs09/118-e2_lcfs_support.pdf

Original File Name: E2_LCFS_SUPPORT.pdf

Date and Time Comment Was Submitted: 2009-04-16 06:51:04

No Duplicates.

Comment 98 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Steffen
Last Name: Mueller
Email Address: muellers@uic.edu
Affiliation: University of Illinois at Chicago

Subject: Land Use Change from Corn Ethanol Production
Comment:

```
Attached are my comments on CARB's land use change modeling
approach.
```

Attachment: www.arb.ca.gov/lists/lcfs09/119-uic_erc_lcfs_comments_final.pdf

Original File Name: UIC ERC LCFS Comments Final.pdf

Date and Time Comment Was Submitted: 2009-04-16 07:34:22

No Duplicates.

Comment 99 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Steffen
Last Name: Mueller
Email Address: muellers@uic.edu
Affiliation: University of Illinois at Chicago

Subject: Ethanol Pathways
Comment:

```
Please find attached comments on ethanol pathways for the LCFS
proposed rulemaking.
```

Attachment: www.arb.ca.gov/lists/lcfs09/120-uic_erc_etoh_technologies_final.pdf

Original File Name: UIC ERC ETOH Technologies Final.pdf

Date and Time Comment Was Submitted: 2009-04-16 08:48:24

No Duplicates.

Comment 100 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kenneth
Last Name: Copenhaver
Email Address: kcopenha@uic.edu
Affiliation: University of Illinois at Chicago

Subject: Use of remote sensing and other geospatial datasets for indirect landuse
Comment:

```
Please find my comments attached.

Thank you,
Ken
```

Attachment: www.arb.ca.gov/lists/lcfs09/121-uic_erc_lcfs_remote_sensing_comments.pdf

Original File Name: UIC ERC LCFS Remote Sensing Comments.pdf

Date and Time Comment Was Submitted: 2009-04-16 08:56:55

No Duplicates.

Comment 101 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Rob
Last Name: Elliott
Email Address: ilcorn@ilcorn.org
Affiliation: Illinois Corn Growers Association

Subject: Comments on Land Use Change Provisions
Comment:

April 16, 2009

Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Low Carbon Fuel Standard

Dear Chairwoman Nichols,

Thank you for the opportunity to comment on the proposed rules for the Low Carbon Fuel Standard (LCFS 09). The Illinois Corn Growers Association and the Illinois ethanol industry have a strong commitment to environmental stewardship. This is best demonstrated by our work over the past thirteen years with Michael Wang at Argonne Natinoal Laboratories. Over the history of this relationship, we have provided data to Michael for the development of the corn-based ethanol GREET model. The GREET Model, managed and updated by Argonne National Laboratory, is still the gold standard among models assessing greenhouse gas emissons based on a life cycle analysis. Additionally, we have taken practices back to the field and to our ethanol plants to continue to improve the greenhouse gas reduction benefits of corn-based ethanol.

Therefore you can understand our excitement and interest when we began our discussions with Dr. Alex Farrell of the University of California-Berkley over two years ago regarding California's proposal to develop standards to increase the use of low carbon fuels such as ethanol and other biofuels. On May 10th, 2007 at the National Corn to Ethanol Research Center at SIU-Edwardsville, Alex Farrell met with the Illinois Corn Growers Association and members of the Illinois ethanol industry to discuss the biofuel implications of the proposed Low Carbon Fuel Standard. This presentation was based on Dr. Farrell's vision and work supported by Argonne National Laboratory, University of California-Berkeley, and University of California-Davis (see Attachment 1). His numbers showed that Midwestern corn ethanol (including both coal and natural gas fired ethanol plants) would reduce greenhouse gas emissions 18% compared to gasoline. Natural gas powered ethanol plants, in isolation, realized about a 33% reduction. These numbers were based on 2001 agriculture input data and older ethanol production technologies and are thus conservative relative to current corn and ethanol production technologies. The discussion focused on the possibility of California moving toward a 10% blend of ethanol to immediately realize a very cost effective way of

achieving lower carbon fuels for California's transportation sector. This would be a seamless transition, helping California economically achieve its environmental objectives while also forwarding our national objectives of displacing offshore fuel sources with home grown renewable fuels.

While we were disappointed with the results that Alex showed for our coal fired ethanol plants, collectively we analyzed ways that their GWI could be improved. These open discussions resulted in several of our coal fired ethanol plants looking to apply for permits allowing them to co-fire with biomass sometime in the future and one plant entered into a project with USDOE to sequester CO2 emissions.

After the meeting we agreed to work with Argonne National Laboratory to update the GREET model with the most current agricultural and ethanol technology data available. We looked at where corn-based ethanol could be by 2030 with the projected yield increases. We also analyzed the new technologies being incorporated by the ethanol industry which would further reduce ethanol's carbon footprint. These studies were to be used to help document the further reductions in the GWI of corn to ethanol and to set a road map for the industry to help California meet its objectives (Attached are the three studies referred to in this paragraph).

In January 2008 we again met with Alex Farrell at the Illinois River Energy ethanol plant near Rochelle, Illinois to discuss the latest work on the proposed California Low Carbon Fuel Standard and present the reports and information we developed since our first meeting. The meeting in Rochelle focused on the need to consider land use change in the analysis of the carbon footprint for ethanol and other biofuels. This was not a new concept since Argonne used a default value for land use change in their analysis due to the fact that no models were designed to ascertain land use change with any certainty that was worth the high risk of being wrong. During our meeting we agreed to analyze land use change using the latest data available to us and ground-truthed our analysis to ensure that our degree of error would be as low as possible.

The Illinois Corn Marketing Board commissioned the University of Illinois-Chicago to conduct a bottom up approach to document the actual carbon footprint of Illinois River Energy including land use change as a result of an addition to the plant which created new demand for corn produced in the area. The study utilized actual data from growers delivering corn to the IRE facility. IRE was a 55 million gallon ethanol plant which purchased approximately 18.6 million bushels of corn per year from family farms within a 40 mile radius of the plant. It also produces 156,000 tons of high quality DDGS which is exported in back loaded containers to the Pacific Rim for animal feed. In summary, the study concludes "that the construction and operation of the Rochelle, Illinois ethanol plant did not contribute to land use change. It follows that greenhouse gas emissions from IRE related land use change are insignificant." This study represents the most detailed and ground-truthed analysis of land use change for a biofuels production ever conducted. The life cycle global warming analysis for IRE produced corn ethanol (including farming, conversion, distribution, denaturing) totals 54.8 gCO2e/MJ (see attached). This plant is representative of approximately 3 billion gallons of ethanol capacity constructed since 2006 using similar technologies.

The differences between the study that was completed for IRE versus the modeling which was done by CARB to ascertain land use change from corn to ethanol are the significant error factors and uncertainties in the CARB analysis due to the macro nature of the analysis. This is due in part to the fact that the model that is being used was not designed for this type of analysis. Also, it takes time to ground truth the results and ensure accuracy and we do not believe the staff at CARB had time to do this.

The other serious problem in the proposed land use penalties for biofuels is the lack of any degree of certainty related to cause and effect of increased biofuels production on land use change. Dr. Wally Tyner, Purdue University, has conducted some excellent work related to the close correlation of commodity prices, especially corn and soybeans, with the price of crude oil. As crude oil increased, we saw corn and soybean prices raise as well. If indeed there is a direct relationship, then the impact of land use change needs to be assigned to crude oil as well as biofuels.

We are very concerned that the proposed rule in no way reflects the original objective vision for the California Low Carbon Fuel Standard. Instead of a standard that will result in an immediate and cost effective reduction in CO2 emissions for the citizens of California and a model for a national LCFS, the proposed rules are fraught with errors, poor assumptions, inconsistencies, weak science, and subjective models. Unfortunately these proposed rules, if implemented, may not decrease CO2

emissions as predicted, may cost the citizens of California further economic pain and suffering, may increase our dependence on imported fuels and harm the economy of the agricultural sector in the U.S. resulting in higher food, fuel, and feed costs.

Our recommendations are the following:

1. Due to the uncertainty of the data and models and without appropriate time to ground-truth the data, defer the incorporation of indirect land use numbers until the quality of the data can be improved by involving experts in the field and until indirect land use can be determined for all fuels and energy sectors. Acting on recommendations that are not based on sound science could result in an increase, rather than a decrease, in the greenhouse gas emissions in California. This would place California even further behind in meeting its 2020 objectives and at a substantial cost.

2. Because the economic assessment that CARB has conducted depends on the accuracy of the assumptions made, the economic impact conclusions drawn are also flawed. The citizens of California are at risk of significant negative economic consequences from the implementation of this rule. Recongition of the uncertainty of the assumptions made needs to be factored into CARB’s economic analysis such that citizens can recognize the economic risk to the state and them personally if the assumptions are incorrect. The staff of CARB needs to work closely with experts in the field with first hand information to gather accurate information for the development of their model. This includes the corn to ethanol industry, the land grant colleges, animal nutritionists, agriculture economists, and Midwestern states to better understand the increased efficiencies of production agriculture, the reduced inputs, the increased sustainability of agriculture and the new technologies being employed in ethanol plants to increase the value of the co-products and to reduce their carbon footprint.

The Illinois Corn Growers Association, the Illinois ethanol industry and our universities are committed to work with California to provide the most accurate scientific data on modern agriculture, the case studies of existing ethanol plants related to their carbon footprint and providing support to develop the models that will accurately determine CO2 emissions. The Midwest and the U.S. has a huge stake in these proposed rules.

Sincerely,

Rob Elliott
PRESIDENT

Attachment: www.arb.ca.gov/lists/lcfs09/122-carb_comments.zip

Original File Name: CARB comments.zip

Date and Time Comment Was Submitted: 2009-04-16 09:18:04

No Duplicates.

Comment 102 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Will
Last Name: Barrett
Email Address: Non-web submitted comment
Affiliation:

Subject: American Lung Association in California
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/123-lcfs.pdf

Original File Name: LCFS.pdf

Date and Time Comment Was Submitted: 2009-04-16 12:13:16

No Duplicates.

Comment 103 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kirk
Last Name: Leonard
Email Address: kirkleon@spiritone.com
Affiliation:

Subject: ILUC assessments are not possible today
Comment:

I am a latecomer to these deliberations, a participant in the Roundtable on Sustainable Biofuels. I have no knowledge of the models CARB may be using for LCFS indirect land use change assessments on biofuels but I have some considerations to suggest.

The biofuels industry is greatly sensitized to the use of food-producing lands for biofuels. It can be expected that many land use changes associated with biofuels will involve the use of existing agricultural lands that are either idled or damaged. Additionally, biofuel crops can be grown on marginal lands, which may involve land use changes.

Are there carbon sequestration credits for use of damaged or marginal lands included? These uses are likely to enhance the lands' carbon capacity.

Are there carbon costs allocated to biofuel crops as a result of crop rotations? How are you distinguishing between a rotation and a new land use?

Further, if new ag lands aren't burned or plowed, there will be little carbon loss, and if the land is cultivated well, carbon capacity will increase appreciably, quickly and over time. Is this information included? It seems to me to be another possibly significant set of carbon credits.

How are your sorting out these kinds of land use changes? The largest concern here seems to be deforestation. To my knowledge, none has occurred yet solely for biofuel production, internationally.

Finally, land use change carbon impacts depend on site-specific factors – current use, soil organic content, how the land was prepared and subsequently managed. Are these factors incorporated in your models?

No one I am aware of has been able to account for these factors completely. While I agree with the goal of including indirect land use changes in LCFS, we don't have the data or the current collection capacity required for an appropriate or accurate assessment.

Future study of indirect land use impacts associated with biofuels, and all other energy resources, is prudent. Today, however, I believe the best we can do is an assessment of their

direct production and use effects.

The Board should acknowledge possible indirect land use change effects associated with biofuels in setting a LCFS and urge further study. Indirect land use effects as currently developed should not be included.

Throughout the history of the petroleum industry, vast urban and economic development, there has never been consideration of carbon emission effects. Why have renewable low carbon fuels suddenly made land use change this important?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-16 14:03:48

No Duplicates.

Comment 104 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Monty
Last Name: Kerley
Email Address: ilcorn@ilcorn.org
Affiliation: University of Missouri

Subject: Low Carbon Fuel Standard comments
Comment:

March 31, 2009

To: Mary D. Nichols, Chairwoman
c/o Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA
95814

From: Monty Kerley, PhD
Professor
University of Missouri
Re: Review of appended report to the Proposed Regulation to Implement the Low Carbon Fuel Standard (Vol II) by the California EPA Air Resource Board

I have read the appended report and provided my comments below. I have limited my comments to the review of animal nutrition literature provided in the report and to the storage of wet distillers grain. Globally this is the worst representation of scientific literature review that I have read to date. It appears that this appendix was written with a severe bias against ethanol. I have no interest in the debate on the merits of ethanol use as a fuel, thus a bias in favor of ethanol is not the motivation of my response. What I believe is relevant is that truth regarding the nutritional value of distillers grains be recorded and evaluated if it is to be used in policy decision. As the appended report now exists such would be impossible.

Authors state that “staff conducted an extensive review of the literature”. The literature review conducted resulted in only eleven referenced articles, of which it appeared that only six were peer-reviewed. A search command of distillers grain in the Journal of Animal Science, Journal of Dairy Science and Poultry Science returned 88 scientific peer-reviewed articles. The review of the literature conducted for this appended report was not extensive, nor was it thorough.

Nutrient content variability has been extensively published for all feed ingredients and commodities. As an example corn can routinely vary in protein content from 8 to 10%. This range represents a 25% variation in the crude protein content of corn grain, which was used as the standard in the report to judge distillers grain. The range in nutrient content of commodities, such as distillers grain, is dealt with on a commercial basis by guaranteeing minimum nutrient specifications. This prevents

negative consequences on animal performance form occurring and this procedure has been in place for years. The minimums guaranteed are actually regulated/tested by the Department of Agriculture of most states. I would expect this to be the case for the state of California. Further the range in nutrient composition of distillers grain has been researched and findings published and presented at national meetings in the US. This topic is well understood by livestock feed companies and livestock producers. Handling and storage of distillers grain has been well established. Many livestock producers prefer the wet form of distillers grains because it can often be purchased at a reduced cost per nutrient basis compared to dry distillers grain. The University of Nebraska Extension Program has extensively researched procedures for storing wet material for prolonged periods. These procedures consist of storage in air-limited environments such as silage bags or silos. We have wet distillers grains that was delivered in September, 2008 that we are just now beginning to feed. No apparent loss in nutrient quality or spoilage is detectable. The use of distillers grains by livestock producers has been extensive. It is widely used in beef, dairy and swine diets. Beef feedlots have routinely used distillers grains in diets at levels of 30 to 40% of the diet when corn prices were elevated. The issues of nutrient concentration variability, handling and storage, and education of livestock producers limiting use of distillers grains as written in the report is baseless.
If this were the case, why are there not mountains of distillers grains around the country now. Some locations of ethanol generation the demand for distillers grains by livestock producers has been greater than supply.

The Maillard reaction (browning reaction) occurs between an available carbonyl present on a carbohydrate and a terminal amino group on an amino acid. When involved in peptide linkages as would be the case in protein, only two amino acids will quantitatively compete in Maillard reations, lysine and arginine. For most animal feeding applications lysine is typically the first-limiting amino acid, and its indigestibility when tied up in a Maillard reaction would be the most problematic. Thong et al (1978, Journal of Animal Science 46:674) reported that nitrogen retention in a gestating sow model was the same between distillers grains and soybean meal. This work showed that protein in distillers grains is not less nutritionally available than the standard protein (soybean meal) widely used in animal diets. Stein et al (2006, Journal of Animal Science 84:853) reported amino acid digestibilities from ten different distillers grains sources compared to corn. Some amino acids in distillers grains were more digestible than in the corn. The range in digestibility of lysine, methionine, threonine, tryptophan and isoleucine was 44 to 63%, 74 to 85%, 64 to 71%, 74 to 80% and 67 to 75%, respectively. These values are substantially greater than the digestibility values suggested in the appended report. There is little in the scientific literature that substantiates the protein digestion estimates presented in the appended report. A cursory review of the relevant literature leads to the conclusion that protein in distillers grain is extensively digested by small intestinal and pancreatic proteases. It is true that overheating can render the protein indigestible similar to what can occur for any by-product overheated during processing or drying or a stored grain commodity. However such is visibly apparent and can be easily tested as acid detergent fiber-nitrogen.

Discussion of antinutritional factors associated with distillers

grain demonstrates a lack of understanding of diet formulations. Distillers grain does typically have high sulfur levels similar to corn gluten feed. This is routinely remedied by adding a copper salt or thiamine to the diet to ameliorate the potential effects of sulfur. Because this is an issue that has already been established from feeding corn gluten feed no new interventions are needed. The high phosphorus issue is similar to sulfur in that any grain-based diet results in high dietary phosphorus and low dietary calcium. Therefore lime (calcium carbonate) is added to grain-based diets as standard diet formulation protocol to adjust the calcium to phosphorus ratio. What is interesting is that feeding distillers grains has actually benefited livestock producers as providing an expensive source of phosphorus in the diet (the cost of feed grade phosphorus increased dramatically this past year) and increased the value of the manure used as fertilizer due to its higher phosphorus content (phosphorus fertilizer prices increased dramatically as well). The high fiber content for pigs is a concern as noted in the report, but the higher fat content of distillers grain results in the energy density of the distillers grain being equal to corn. Stein and Shurson (2006, Journal of Animal Science 87:1292) in a review of the literature reported that distillers grains can replace up to 30% of the corn in the diet of growing swine without any impact on growth performance. Diets of dairy cattle exceeding 6 to 7 % lipid (fat) can depress diet digestibility in the rumen. One of the factors limiting the inclusion of distillers grains to less than 40% of the diet is its lipid content. However, the lipid content of distillers grain does not create an issue for dairy application but rather a potential benefit. Dairy diets typically will have fat added to increase the energy density of the diet which subsequently will increase milk production. Distillers grain is an inexpensive source of dietary lipid. The statement in the appended report that diets high in fats can lead to milk with unacceptably high fat content is erroneous. In many markets milk value is increased as fat content increases. An ability to increase the fat content of the milk would be a trait sought after by dairy producers. Finally the comment that the small particle size of distillers grain predisposes swine to ulcers is also erroneous. The diets fed to swine in commercial production are finely ground to increase nutrient digestibility by the animal. The particle size of distillers grain is not finer than the total diet fed to swine. Links between gastric ulcer and particle size can be made, but it is not causative due to distillers grains. Such would be the case if distillers grain were not placed in the diet.

The reported conclusion that “distillers grain at 25% of the diet reduced pH which in turn suppressed growth of ruminal bacteria responsible for fermentation” defies logic. The reduction in pH in the rumen must occur via an increased growth of ruminal microflora responsible for acid production, not a suppression of microflora growth. The literature does not support the conclusion that dietary inclusion of distillers grain suppresses animal performance via ruminal pH reduction. Depenbusch et al (2008, Journal of Animal Science 86:2338)

measured the same dry matter intake, average daily gain and feed efficiency in cattle fed diets with 13% distillers grain compared to control diets without distillers grain. Al-Suwaiegh et al (2002, Journal of Animal Science 80:1105) reported the same performance in beef cattle fed diets with 30% distillers grain or without distillers grain inclusion and the same level of milk production in dairy cows fed diets with or without 15% distillers

grain. The abundance of data does not support grave consequences in level of growth performance by ruminants fed distillers grain compared to diets without distillers grain. Rather the abundance of data reports that distillers grain can be successfully used in ruminant feeding applications, and the industry is widely using this commodity.

I agree with the conclusion of the report that wet distillers grain stored open to the air in warm environments is prone to spoil. This would be similar to almost any feed ingredient fed to animals; all feed ingredients are either protected from rainfall or stored in a manner that retards spoilage, such as silage. Several approaches have been tested and are now routinely used by livestock producers to store wet distillers grains for prolonged periods of time (several months). As stated earlier, many producers prefer the wet form due to an often advantaged price for the distillers grain.

I do not mean this comment to be derogatory, but I am curious if the authors of this report have ever viewed an agriculture enterprise. Distillers grains is widely used by several domestic farm species and feed companies. I am dumbfounded how the statement “livestock managers generally lack the information they need on the potential advantages of distillers grain…” can be regarded as credible.

My assessment of the appended report is that it is almost inaccurate from beginning to end. It does not adequately assess the nutritional value of distillers grain and is erroneous in its conclusion on use potential of this feed ingredient. The report reads as fiction supportive of a desired outcome but not as factual information useful for establishment of policy.

Attachment: www.arb.ca.gov/lists/lcfs09/125-nichols_ca_epa_air_board_331.doc

Original File Name: Nichols Ca EPA Air Board 331.doc

Date and Time Comment Was Submitted: 2009-04-17 07:36:37

No Duplicates.

Comment 105 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Todd
Last Name: Campbell
Email Address: tcampbell@cleanenergyfuels.com
Affiliation: Clean Energy

Subject: Strong Support for Proposed Low Carbon Fuel Standard!
Comment:

On behalf of Clean Energy Fuels Corp., I officially submit our final comments on the final draft proposal of the Low Carbon Fuel Standard. Clean Energy strongly supports this proposed regulation and asks for four friendly amendments that will help our company support the California Air Resources Board's and the State of California's LFCS 2020 goals and beyond. These four amendments in summary are: (1) include "LNG from domestic sources" in the "opt-in" list under Section 95480; (2) create two EER values for spark-ignited and compression-ignition engines or blend the EER values based on the engine data to a value of 0.95; (3) expand the sale of LCFS carbon credits generated to the larger AB 32 cap and trade program to non-regulated entities and require "regulated parties" to purchase all available LCFS credits on the market before allowing that entity to carry over its shortfall of 10% or less; and, (4) revise the "biogas" definition to include Municipal Solid Waste as a feedstock. Thank you.

Attachment: www.arb.ca.gov/lists/lcfs09/126-clne_final_comments_on_lcfs_4.17.09.pdf

Original File Name: CLNE Final Comments on LCFS 4.17.09.PDF

Date and Time Comment Was Submitted: 2009-04-17 11:05:37

No Duplicates.

Comment 106 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Geoff
Last Name: Moody
Email Address: gmoody@gmaonline.org
Affiliation: Grocery Manufacturers Association

Subject: Comments re LCFS
Comment:

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Attached please find comments from the American Bakers Association,
American Beverage Association, American Frozen Food Institute,
Grocery Manufacturers Association, and Snack Food Association
regarding indirect land use calculations in California's LCFS.
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Attachment: www.arb.ca.gov/lists/lcfs09/128-lcfs_letter-_final.pdf

Original File Name: LCFS Letter- Final.pdf

Date and Time Comment Was Submitted: 2009-04-17 11:32:32

No Duplicates.

Comment 107 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joel
Last Name: Velasco
Email Address: washington@unica.com.br
Affiliation: Brazilian Sugarcane Industry Association

Subject: UNICA's Comments to CARB on Sugarcane Ethanol in LCFS
Comment:

The Brazilian Sugarcane Industry Association (UNICA) welcomes the opportunity to provide specific comments on California's proposed Low Carbon Fuel Standard (LCFS). The attached letter expands on our previous correspondence regarding lifecycle calculations of sugarcane ethanol and includes a number of specific recommendations concerning the calculations of indirect land use change.

We ask that the attached letter and all of its references be fully considered by the California Air Resources Board (CARB) and staff prior to approval of the regulation. The letter is structured as follows: (I) Introduction of UNICA as having a direct and significant interest in this rulemaking; (II) Comments and recommended changes to life cycle assessment inputs and assumptions; (III) Comments and recommended changes to land use change calculations; and, (IV) Conclusions.

Attachment: www.arb.ca.gov/lists/lcfs09/129-unica_comments_to_carb_on_sugarcane_ethanol.pdf

Original File Name: UNICA Comments to CARB on Sugarcane Ethanol.pdf

Date and Time Comment Was Submitted: 2009-04-17 11:57:17

No Duplicates.

Comment 108 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Gary
Last Name: Edwards
Email Address: ehamilton@iowacorn.org
Affiliation: Iowa Corn Growers Association

Subject: Concerns regarding LCFS proposed regulation
Comment:

```
Please accept the attached letter from Iowa Corn Growers
Association President Gary Edwards of Anamosa, Iowa.
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Attachment: www.arb.ca.gov/lists/lcfs09/130-carb_letter_4.17.09.pdf

Original File Name: CARB Letter 4.17.09.pdf

Date and Time Comment Was Submitted: 2009-04-17 12:37:37

No Duplicates.

Comment 109 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bob
Last Name: Dickey
Email Address: bobandmarydickey@hotmail.com
Affiliation: Natinal Corn Growers Association

Subject: Low Carbon Fuel Standard
Comment:

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Please confirm receipt of attached comments. Thank you for your
time.
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Attachment: www.arb.ca.gov/lists/lcfs09/131-ncga_lcfs_carb_comments-final.pdf

Original File Name: NCGA LCFS CARB Comments-Final.pdf

Date and Time Comment Was Submitted: 2009-04-17 13:39:43

No Duplicates.

Comment 110 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ofelia
Last Name: Alvarado
Email Address: moalvarado@cox.net
Affiliation: American Lung Association

Subject: Low Carbon Fuel Standard
Comment:

Dear Chairman Nichols,

Thank you for your leadership in developing California's Low Carbon Fuel Standard. In addition to helping California meet our greenhouse gas reduction goals, the LCFS will help to improve air quality and public health by reducing our dependence on petroleum fuels.

Californians are subject to some of the worst air quality in the nation and experience serious health impacts as a result pollution caused by motor vehicles, including cancer, reduced lung development in children, aggravated asthma, increased hospitalizations and premature death.
Reducing petroleum consumption through the LCFS is an important strategy for fighting global warming and improving our air quality.

I urge you to move forward with the Low Carbon Fuel Standard and ensure that it provides the greatest benefit to California by:
- promoting the development and rapid deployment of a new generation of ultra-low carbon fuels, such as hydrogen and electricity;
- accounting for the direct and indirect land use changes associated with the production low-carbon fuels; and
- ensuring ongoing reviews of air quality and other community health impacts associated with the introduction of new fuels and fuel production facilities in California.

Along with the American Lung Association of California, I urge you to proceed with the adoption of a strong, sustainable Low Carbon Fuel Standard without delay, to improve air quality for all Californians.

Sincerely,
Ofelia Alvarado

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-17 13:43:47

88 Duplicates.

Comment 111 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ware
Last Name: Kuschner
Email Address: kuschner@stanford.edu
Affiliation: Stanford University

Subject: Low Carbon Fuel Standard
Comment:

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Dear Chairman Nichols,

I urge you to move forward with the Low Carbon Fuel Standard.
Please promote the adoption of a strong, sustainable Low Carbon
Fuel Standard without delay, to improve air quality for all
Californians.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-17 14:05:43

No Duplicates.

Comment 112 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Michelle
Last Name: Ortega
Email Address: michelle.ortega@disney.com
Affiliation:

Subject: PLEASE READ!!!
Comment:

Dear Chairman Nichols,

Thank you for your leadership in developing California's Low Carbon Fuel Standard. In addition to helping California meet our greenhouse gas reduction goals, the LCFS will help to improve air quality and public health by reducing our dependence on petroleum fuels.

Californians are subject to some of the worst air quality in the nation and experience serious health impacts as a result pollution caused by motor vehicles, including cancer, reduced lung development in children, aggravated asthma, increased hospitalizations and premature death.

Reducing petroleum consumption through the LCFS is an important strategy for fighting global warming and improving our air quality.

I urge you to move forward with the Low Carbon Fuel Standard and ensure that it provides the greatest benefit to California by:

- promoting the development and rapid deployment of a new generation of ultra-low carbon fuels, such as hydrogen and electricity;

- accounting for the direct and indirect land use changes associated with the production low-carbon fuels; and

- ensuring ongoing reviews of air quality and other community health impacts associated with the introduction of new fuels and fuel production facilities in California.

Along with the American Lung Association of California, I urge you to proceed with the adoption of a strong, sustainable Low Carbon Fuel Standard without delay, to improve air quality for all Californians.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-17 14:15:14

No Duplicates.

Comment 113 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Frankie
Last Name: Sturm
Email Address: frankie@trumanproject.org
Affiliation: Truman National project

Subject: National Security Concerns Regarding Selective Enforcement of Indirect Effects in CA LCFS
Comment:

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Non-web submittal
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Attachment: www.arb.ca.gov/lists/lcfs09/154-trumannational_security.pdf

Original File Name: TrumanNational Security.pdf

Date and Time Comment Was Submitted: 2009-04-17 14:26:38

No Duplicates.

Comment 114 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: David
Last Name: Fremark
Email Address: fremarkfarms@hotmail.com
Affiliation: South Dakota Corn Utilization Council

Subject: CARB Comments
Comment:

April 17, 2009

Mary. D. Nichols, Chairwoman
c/o Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Nichols:

On behalf of the South Dakota Corn Utilization Council, an organization which seeks to protect markets for corn producers in our state, I am writing today with grave concerns about California's proposed Low-Carbon Fuel Standard (LCFS). While I respect the insurmountable task which has been laid at the feet of the California Air and Resource Board to prepare regulations that would allow California to reduce the state's Greenhouse Gas (GHG) emissions by 10 percent over the next decade, the rules recently released by your organization have the potential to unravel current strides made in reducing emissions and would likely accelerate land use changes and GHG emissions – the reverse effect of what you claim to achieve.

The fundamental flaw is the attempt to reduce GHG emissions on the backs of the biofuels industry alone. The proposed LCFS within the CARB rules attacks only transportation fuels for the burdens of carbon that are discharged into the atmosphere, when in fact, all economic activity generates GHG emissions. A holistic approach to GHG reduction must be employed; any other action would be shortsighted and ineffective.

Burdening biofuels agriculture while exempting food agriculture could have the effect of encouraging unsustainable land stewardship in the developing world with the negative outcome of increasing net GHG emissions around the world. All economic activity should be held responsible for the GHG emissions emanating from them if this situation is to be avoided.

The precedence set by allowing flawed and exclusionary rules to set standards for not only California but the nation, would be a staggering detriment to our country and would slow the development of technologies that can reduce our reliance on petroleum and other fossil fuels. In the end, the reductions you seek will likely not be reached because the reasoning is based upon a single-minded approach. The proposed LCFS developed by CARB does not consider the impact of other products and services that place significant carbon

burdens – many exceeding the footprint of renewable fuels.

There is opportunity before us and methods already being developed which would provide the solutions you are seeking to bring your state into environmental compliance. Science based decisions and rule making which take into consideration ALL the impacts on GHG emissions are imperative. Agricultural practices and technology are already making positive impacts, promising to continually improve our environmental footprint.

Proof of these advances were found by Field to Market, a broad based alliance including food and agriculture interests tasked with defining and measuring the sustainability of food and fiber production. The group recently released the Environmental Resource Indicators Report, which evaluated national-scale metrics over a 10 year period from 1987 to 2007 for land use, water use, energy use, soil loss, and climate impact, and generated initial benchmarks for corn, soybean, cotton and wheat production.

The study evaluates both overall resource use, as well as resource efficiency to demonstrate the positive change in each crop's "field print" over the past two decades.
The Environmental Resource Report indicates several key trends are beginning to emerge. Importantly, production agriculture has been increasing efficiency over time, suggesting positive progress toward meeting increasing demand for agricultural products while achieving lesser environmental impact.

Corn has seen modest to significant improvements in water use per acre and in water use, energy use, and carbon emissions per bushel. Consider the following facts:

• Land use: The amount of land needed to produce one bushel has decreased 37 percent.
• Irrigation: Irrigation use per bushel has decreased 27 percent.
• Energy: The energy used to produce a bushel or unit of corn has decreased by 37 percent.
• Climate impact: Corn production has seen a 30 percent decrease in emissions per bushel.

Agriculture is a select industry making tremendous advances of this caliber on our nation. On behalf of the industry I urge your board to reconsider the proposed rules and investigate more effective actions for controlling GHG emissions.

Sincerely,

David Fremark, President
South Dakota Corn Utilization Council

Attachment: www.arb.ca.gov/lists/lcfs09/158-carb_letter_for_fremark___2_.doc

Original File Name: CARB Letter for Fremark (2).doc

Date and Time Comment Was Submitted: 2009-04-17 14:33:47

No Duplicates.

Comment 115 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Timothy
Last Name: O'Connor
Email Address: toconnor@edf.org
Affiliation: Environmental Defense Fund

Subject: Support for LCFS
Comment:

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Please accept attached comment letter in support of the proposed
California Low Carbon Fuel Standard.
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Attachment: www.arb.ca.gov/lists/lcfs09/162-edf_comments_on_final_lcfs_regulation.pdf

Original File Name: EDF comments on final LCFS regulation.pdf

Date and Time Comment Was Submitted: 2009-04-17 14:59:41

No Duplicates.

Comment 116 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Clayton
Last Name: McMartin
Email Address: cem@cfch.com
Affiliation: Clean Fuels Clearinghouse - RINSTAR

Subject: Commercial Implementation Comments for LCFS
Comment:

Thank you for this opportunity to comment on the proposed LCFS.

Please find attached a letter outlining a number of key commercial considerations which we have found to be very important factors in our administration of the nationwide Renewable Fuel Registry.

We hope you find the knowledge we have gained from over 700,000 renewable fuel credit transactions to be beneficial in your efforts.

Attachment: www.arb.ca.gov/lists/lcfs09/168-cfch_comments_on_lcfs.doc

Original File Name: CFCH Comments on LCFS.doc

Date and Time Comment Was Submitted: 2009-04-17 15:38:14

No Duplicates.

Comment 117 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Thomas
Last Name: Blaney
Email Address: Non-web submitted comment
Affiliation:

Subject: Form letter 5- The California Low Carbon Fuel Standard
Comment:

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please see attached
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Attachment: www.arb.ca.gov/lists/lcfs09/171-thomas.pdf

Original File Name: Thomas.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:06:35

1500 Duplicates.

Comment 118 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Park
Last Name: Waldroup
Email Address: Non-web submitted comment
Affiliation:

Subject: University of Arkansas
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/173-park.pdf

Original File Name: park.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:12:55

No Duplicates.

Comment 119 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Roy
Last Name: Perez
Email Address: Non-web submitted comment
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/174-roy.pdf

Original File Name: ROy.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:13:54

No Duplicates.

Comment 120 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Betsie
Last Name: Dent
Email Address: Non-web submitted comment
Affiliation:

Subject: Calumet Project
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/175-betsie.pdf

Original File Name: Betsie.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:14:55

No Duplicates.

Comment 121 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Betty Jo
Last Name: Toccoli
Email Address: Non-web submitted comment
Affiliation:

Subject: CARB Implementation of AB 32
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/176-betty.pdf

Original File Name: Betty.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:16:45

No Duplicates.

Comment 122 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jeffrey
Last Name: Martin
Email Address: Non-web submitted comment
Affiliation:

Subject: Yulex Corporation
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/177-jeffery.pdf

Original File Name: Jeffery.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:17:24

No Duplicates.

Comment 123 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Carl
Last Name: Parsons
Email Address: Non-web submitted comment
Affiliation:

Subject: University of Illinois
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/178-carl.pdf

Original File Name: Carl.pdf

Date and Time Comment Was Submitted: 2009-04-17 16:17:54

No Duplicates.

Comment 124 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Dr. Barbara & Mr. To
Last Name: Hamilton
Email Address: tetech@pacbell.net
Affiliation:

Subject: Battery tech is getting better.
Comment:

Dear Chairman Nichols,

Thank you for your leadership in developing California's Low Carbon Fuel Standard. In addition to helping California meet our greenhouse gas reduction goals, the LCFS will help to improve air quality and public health by reducing our dependence on petroleum fuels.
We are getting a new 2X high efficiency nat gas power plant to replace our old plant. This plus plug-in hybrids will help..Battery tech is getting better.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-17 18:09:14

No Duplicates.

Comment 125 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: gerald
Last Name: cauthen
Email Address: cautn1@aol.com
Affiliation:

Subject: Air Quality
Comment:

All politians and all agencies now talk the talk. But only some have the balls to actually walk the walk.

CARB has been a standout. Your agency has shown courage and strength. Please continue to HANG TOUGH. Millions of Californians are depending on you to reduce carbon emissions 80% below 1990 levels by 2050, per the Governor's announcement. Hang tough; throw the lobbyists out of your office.

G. Cauthen,
Oakland

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-17 22:30:56

No Duplicates.

Comment 126 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jason
Last Name: Burr
Email Address: variant003@hotmail.com
Affiliation: none

Subject: Diesel disallowed??
Comment:

I fail to see the reasoning for removing diesel LDV from the discussions of low carbon and low emissions. The total life cycle of the fuel and vehicle have to be considered when determining whether a energy source is higher or lower carbon or emissions emitter. While diesel is not as glamorous as hydrogen or hybrids, it has proven itself highly adaptable to our changing vehicle needs. It is here now, established, with infrastructure in place that allows us take advantage of the benifits now. And as alternative diesel fuels and engine controls improve this venerable design will carry us for many more years. Maybe by then hydrogen and/or electric infrastructure will have caught up and be viable to the vast majority of car owners. Until then I will continue to save money and resources driving a diesel automobile.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-18 09:52:51

No Duplicates.

Comment 127 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Cal
Last Name: Hodge
Email Address: a2ndopinioninc@aol.com
Affiliation: A2O, Inc. On behalf of Neste Oil

Subject: Comments on Detailed California-GREET Pathway for Renewable Diesel from Midwest Soybeans
Comment:

Clerk of the Board
Air Resource Board
1001 I Street
Sacramento, CA 95814
Electronic Submittal:
http://www.arb.ca.gov/lispub/comm/bclisy.php
CC via Email: aprabhu@arb.ca.gov, jcourtis@arb.ca.gov, dsimerot@arb.ca.gov
Comments on: "Detailed California-GREET Pathway for Renewable Diesel from Midwest Soybeans"
Thank you for the opportunity to comment on the "Detailed California-GREET Pathway for Renewable Diesel from Midwest Soybeans". A 2nd Opinion, Inc.'s client, Neste Oil, has sent Anil Prabhu Neste's study "Greenhouse gas and energy intensity of product chain: case transport biofuel" last year. So CARB has actual data concerning Neste's NExBTL renewable diesel process. We have found some inconsistencies in methodology and what believe are simply word processing errors.
1) This path is based upon UOP Process Data. It is for renewable diesel produced via hydrogenation technology known as the UOP-HDO standalone hydrogenation process for renewable diesel II. Neste's NExBTL process data has not been used in this study. Neste Oil will submit Method 2 pathways based upon its production facility sites and feedstocks at the appropriate time.
2) One difference in pathways between the UOP and Neste's actual case study is the way hydrotreatment and hydrogen production are integrated into Neste's refinery site. Neste explained the allocations in its NExBTL study (page 34). Integrating systems gives certain benefits concerning energy efficiency and GHG emissions. This is very productive way to decrease emissions and should be encouraged. We doubt that these allocations are taken into account in CARB's Renewable Diesel study.
3) The CA-GREET methodology assumes that VOC and CO are converted to CO2 in the atmosphere and includes these pollutants in the total CO2 value using ratios of the appropriate molecular weights. Neste's study used the International standard ISO 1464 definition of greenhouse gases. Neste's reporting is based on its guidance under which VOC and CO are not included in greenhouse gases. VOC and CO have also other health, safety and environmental impacts and these gases are treated separately.
4. ILUC factor needs to be adjusted to reflect higher energy yields per acre of crop land. In the Esterified Soyoil study the preliminary indirect Land Use Change (iLUC) GHG component is estimated to be 42 gCO2e/MJ of Biodiesel. Because Renewable Diesel yields more energy per acre than Biodiesel, the iLUC component for

Soy-based Renewable Diesel should be 40 gCO2e/MJ if 42 is the right GHG component for Soy-based Biodiesel. (Comments concerning the 42 gCO2e/MJ factor will be covered in another document.)

Assuming a soy bean yield of 40 bushels/acre the Biodiesel energy yield per acre is calculated as follows:

+(40 bu beans/acre * 60 lbs beans/bu * 119550 Btu/gal biodiesel) / (5.7 lbs beans/lb soy oil * 1.04 lb soy oil/lb biodiesel * 7.4031 lb biodiesel/gal biodiesel * 948.4516527 Btu/MJ) = 6893.25 MJ/acre.

Assuming the same soy bean yield the Renewable diesel energy yield per acre is as follows:

(40 bu beans /acre * 60 lbs beans/bu *122887 Btu/gal biodiesel) / (5.7 lbs beans/lb soy oil * 1.17 lb soy oil/lb renewable diesel * 6.4934 lb renewable diesel/gal renewable diesel * 948.4516527 Btu/MJ) = 7180.74 MJ/acre.

Because land use change is the same for both Biodiesel and Renewable Diesel and iLUC is measured in gCO2e/MJ the iLUC estimate for Renewable Diesel is equal to (6893.25/7180.74)*42 or 40 gCO2e/MJ.

While this correction helps a little bit, we remain concerned that the huge estimated theoretical iLUC factor will discourage the economic development of one of the few, if not the only, cleaner burning renewable fuel strategies that reduces NOx emissions. Changing the biomass to transportation fuel conversion technology resulted in a 4% increase in energy yield per acre. In the energy industry a 4% improvement in efficiency is huge. But, it is made almost negligible when it is compared to the preliminary theoretical iLUC carbon release.

5. Fossil carbon credit treatment is inconsistent. As we compared the Total Well to Wheel (WTW) energy and GHG carbon emissions from CARB's Biodiesel and Renewable Diesel Pathways we noticed that the pattern of the WTW and GHG numbers were inconsistent with work done by other life cycle analysts. We anticipated that Renewable Diesel's WTW and GHG numbers would be slightly lower than those of Biodiesel. As you can see GHG was higher and there was almost no difference in WTW.

Biomass-based Diesel Fuel	Total WTW, Btu/mmBtu	GHG, gCO2e/MJ
Biodiesel	1,363,058	26.93
Renewable Diesel	1,353,029	28.80
Fossil CO2 & Btu credits	-57887	-4.22
RD with fossil credits	1,295,142	24.58

This caused us to look for why. One of the things we found (§7.1) was Biodiesel received a 3.7 gCO2e/MJ credit for fossil carbon in the co-product glycerin while Renewable Diesel did not receive a fossil carbon credit for the co-product renewable propane. For consistency Renewable Diesel should also receive a fossil carbon credit for the carbon content of the renewable propane.

For Renewable Diesel the fossil carbon credit should be 4.22 gCO2e/MJ based upon the following calculation:

(948.451653Btu RD * 0.059 lb C3 per lb RD * 454 gm/lb * 0.85714 gm C/gm C3 * 3.667gm CO2/gmC) / 18925 Btu/lb RD = 4.22 gmCO2e/MJ.

6. To simplify both the regulatory and compliance processes there should also be a Fossil energy credit. Because the renewable propane will displace fossil propane as fuel, Renewable Diesel should also receive a fossil energy credit that will reduce the Total WTW 57,887 Btu based upon the following calculation:

(1000000 Btu RD * .059 lbs C3 per lb RD *18568 Btu per lb C3) / (18925 Btu per lb RD) = 57887

We believe the Renewable Diesel Pathway should include the fossil CO2 and energy credits for fuel co-products. These co-products reduce fossil CO2 emissions and energy consumption and therefore contribute to meeting the overall intent of the LCFS. Allowing the

credits to be part of the pathway greatly simplifies the regulations as well as the tracking, recordkeeping and reporting process. Doing so also provides more equal treatment for renewable diesel producers who buy hydrogen and sell propane and those that integrate the propane and fuel gas recovery into their own hydrogen production facilities thereby reducing the fossil carbon and energy footprint of the hydrogen consumed in the conversion process.

7. Consistent methodology is a priority. It is not our intent to cause Biodiesel to lose the fossil credit. We just want equal treatment. That also implies that it is also appropriate to take a fossil energy credit for glycerin used as boiler fuel. If Biodiesel production increases as significantly as the compliance scenarios indicate, fueling glycerin is a reasonable boundary assumption.

8. Some life cycle analysts are concerned about mixing allocation (the primary methodology for both biomass-based diesel pathways.) and substitution methodologies (fossil carbon credit in Biodiesel pathway) in the same pathway. This can be resolved by reducing the fossil energy and CO2 credits by the amount of fossil energy and CO2 that was allocated to the co-products. The Neste LCA's we mentioned earlier that integrate hydrogen production essentially does this.

This will probably result in a small amount of the carbon content of biodiesel being considered to be fossil carbon. But, the use of consistent allocation methodologies for both types of biomass-based diesel fuel add credibility to the LCFS.

9. Inconsistent methodologies lead to the question: Are we ready? The major problem with items 5, 6, 7 and 8 is that Life Cycle Analysis methodology may not be consistent, mature and stable enough for use in regulations. The different treatment of the fossil carbon credit in the two pathways proves they are not consistent. The need to change at least one if not both of the pathways is an indication that they are not mature and stable. Fortunately both pathways were labeled as being "…a preliminary estimate of the carbon intensity for the fuel derived from soybeans presented in this document. At this time…" Can we have regulations based upon "preliminary estimates"? Or, does the regulatory process need to slow down?

10. When will Table A on Page 7,Table Q on Page 15 and Table 7.01 on Page 61 be revised to reflect the NOx and VOC emissions findings from the "Biodiesel and Renewable Diesel Emissions Study"? Also, the methodology used to measure exhaust hydrocarbons in the study does not measure exhaust oxygenates. How does CARB plan to convert the exhaust oxygenates that are probably more concentrated in biodiesel exhaust than in renewable diesel exhaust to CO2 equivalents?

11. Our remaining comments address what we believe to be word processing errors.

Table M on Page 14: Should Methanol be Hydrogen?

Table 1.02 on Page 19: The Soy Oil to RD (lb oil/lb RD) should be 1.17

Page 19: In the mmBtu RD/bushel soybeans calculation just below Table 1.02, 0.17 should be replaced with 1.17 and the result, 0.163448 looks like a leftover from the biodiesel pathway.

Table 1.04 on page 21: All the references to Table 1.04 should be to Table 1.03. Total energy due to soybean farming should be, Btu/mmBtu = 26564 Btu/bu / 0.169685 = 156549. Total adjusted energy also has problems. RD production allocation factor for RD II is 94.5% and the loss factor is 1.000045 as stated in the Note after the table. By using these values and the value 156549 the total adjusted energy should be 67611 Btu/mmBtu. We cannot get the

value 67180 using any combination of the numbers (correct or not correct).
Table1.08 on page 26: All the references to Table 1.08 should be to Table 1.07. The entry under
- Diesel, Formula: 2926 should be replaced by 3868
Table 5.01, page 51: Replace Transesterification with Hydrogenation
Appendix B, page 66: Replace Soyoil Transesterification data with Soyoil Hydrogenation data
If you have questions you may contact Cal Hodge at A2ndOpinionInc@aol.com and/or Riitta Lempiainen at Riitta.Lempiainen@nesteoil.com .

Attachment: www.arb.ca.gov/lists/lcfs09/214-renewable_diesel_pathway_comments.doc

Original File Name: Renewable diesel pathway comments.doc

Date and Time Comment Was Submitted: 2009-04-18 16:37:16

No Duplicates.

Comment 128 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Gal
Last Name: Luft
Email Address: luft@iags.org
Affiliation:

Subject: comments on LCFS/land use
Comment:

One can argue the land use surcharge back and forth on a philosophic level and on the accuracy of the model. However, there are several fundamental problems with the way land use surcharge is applied. Generally speaking land use intensity is highly cyclical. It corresponds mainly a combination of demand and price for agriculture products. The report clearly stated the case for land use intensity increase with increased demand for bio-fuels. However, as seen recently, the price of agriculture commodities are only partially dependent on bio-fuel demand. In Q4 of 2008 we saw record production of ethanol but nonetheless corn and ethanol prices fell by 70%. This means that corn prices are more sensitive to oil prices than to demand from the biofuels industry. Put those two together, and the result is that as oil prices go up, commodity prices go up, corn prices go up and land use intensity goes up with it. Then we go through a period of oversupply with corresponding price reduction and land use intensity reduction. So to the extent that bio fuels offset the demand for oil and put a downward pressure on gasoline price, it moderates the increase in land use intensity.

The second error I see in the analysis is in the accounting of GHG emissions from the conversion of cattle pasture to agriculture (corn) land. Most cattle pasture in the US is grass land. The cattle eats the grass and converts it to methane which is 23 times more potent then CO2. As corn becomes more expensive, feed become more expensive so meat production becomes less economical. It is logical that meat growers will then lease their land to corn growers. As I see the reality of corn expansion, brand new barren land is the last resort. The growers will first grow more corn on the land they already cultivate, then they will use land that was cultivated in the past but is now idle (because it was not profitable to cultivate). Then they would use cattle pasture that is more productive than barren land. As I said, the calculation of land use change from cattle pasture to corn is incorrect because it does not take into account the root system (corn has a much more robust root system which capture more CO2 than grass root system. Corn harvesting does not involve removing the roots from the ground.) and it only focuses on CO2 which misses the potent GH effect of methane gas. Add to this the GHG emission of meat processing, packaging, freezing and transportation and you will get huge savings in GHG emissions when converting cattle pasture to biofuels crop.

The third error is ignoring the fact that the same market forces that increase the demand for corn ethanol and with it increase in land use intensity, will eventually find a cheaper alternative that

will reduce the demand for corn ethanol and with it reduce the land use intensity: As land become more valuable and corn more expensive, corn ethanol will become more expensive too. This will further increase the effort to invest and produce ethanol from other sources such as cellulosic ethanol and ethanol from algae/seaweed. These new and cheaper sources will undermine the demand for corn ethanol which will reduce the demand for land eventually causing the land to revert back to its original use. This demand destruction is surly within the scope of the timeframe that the land use change surcharge applies to.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-19 11:24:50

No Duplicates.

Comment 129 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Carl
Last Name: Marz
Email Address: lmarz@charter.net
Affiliation:

Subject: LCFS Comments
Comment:

While fully supporting the spirit of the proposed LCFS, I urge ARB to reconsider a LCFS credit for light-duty diesel vehicles (LDDVs). LDDVs can utilize renewable diesel fuel (FAHC) that by ARB's own analysis potentially has the lowest lifecycle carbon intensity (CI) of any fuel considered in the proposed LCFS (15 g CO2e/MJ per Table VI-4); a lower CI than cellulosic ethanol (20.4 g CO2e/MJ), electricity (34.9 g CO2e/MJ), and hydrogen (33.09 g CO2e/MJ), even taking into account generous power train efficiency advantages (EER) assigned by ARB to electric and hydrogen fuel cell vehicles compared to diesel power trains.

Thus, contrary to the assertion on page X-5, §2, LDDVs do potentially provide significant long term benefits of promoting significantly lower carbon fuels (e.g., FAHC renewable diesel fuel) and more energy efficient vehicles. The assertion that "[t]he increasing efficiency of gasoline vehicles will continue to close the efficiency gap separating gasoline from diesel vehicles..." and "...eliminate most, if not all, of the credits" (page VI-17) assumes for no apparent reason that the efficiency of diesel engines will not also improve, something that is contradicted by engine parts suppliers (for both gasoline and diesel vehicles) like Bosch (see, e.g., http://wardsautoworld.com/ar/auto_european_brands_bullish/). Diesel engines can also be adapted to hybrid power train systems in LDV applications for even greater vehicle efficiency.

According to ARB staff estimates, LDDVs have 15% to 20% lower CO2 emissions than equivalent LDGVs (footnote #49, page VI-16). This in conjunction with the CI reduction of renewable diesel (FAHC) would result in at least an 87% reduction in CO2e emissions compared to baseline LDGVs running on CaRFG ((15 g CO2e/MJ ÷ 95.85 g CO2e/MJ) X (1 - 0.15) = 0.133; 1 – 0.133 = 0.867 = 86.7% reduction). This would potentially exceed Governor Schwarzenegger's long term goal of reducing GHG emissions by 80 percent by 2050 for this application (page ES-3).

The objective should be to reduce CO2 emissions as much and as soon as practicable, not just meet an arbitrary goal of 10% reduction by 2020. It appears that this could best be accomplished in the short- to medium-term by encouraging diesel vehicles which in turn would be capable of using a very low CI fuel (FAHC) with no modifications required.

It would seem "double crediting" would be completely justified because of the greater efficiency of the compression-ignition ICE over the spark-ignition ICE plus the capability of using the lowest

carbon intense fuel identified by ARB. A LCFS credit for LDDVs may encourage more manufacturers to offer diesel engine options in the U.S. in at least some of their vehicle lines.

As a disclaimer, I am in no way associated with the automotive industry.

Thank you for your consideration of these comments.

Respectfully submitted,

L. Carl Marz, Certified Consulting Meteorologist

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-20 02:02:12

No Duplicates.

Comment 130 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joe
Last Name: Lee
Email Address: joelee36@gmail.com
Affiliation:

Subject: I strongly support the Low Carbon Fuel Standard!
Comment:

To Whom It May Concern:

I have recently written a research paper on how transportation emissions pollute our air and create adverse health effects upon susceptible populations. My paper has inspired me to take action to protect the children, the elderly, and the immunosuppressed from harmful vehicle exhaust.

I strongly support the Low Carbon Fuel Standard because I believe our future populations deserve to live in a cleaner environment, regardless of the struggles we have today.

As an undergraduate student studying Public Health, I believe that we can save many lives and money if we strongly support smart plans like the Low Carbon Fuel Standard. Why dirty our air and continue scaffolding our "we'll-take-care-of-this-later" costs?

I urge you to proceed with the adoption of a strong, sustainable Low Carbon Fuel Standard without delay, to improve air quality for all Californians.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-20 02:54:15

No Duplicates.

Comment 131 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Lynn D.
Last Name: Westfall
Email Address: lynn.d.westfall@tsocorp.com
Affiliation:

Subject: Proposed Regulation to Implement the Low Carbon Fuel Standard (LCFS)
Comment:

```
Please refer to the attached document.
```

Attachment: www.arb.ca.gov/lists/lcfs09/240-ltr_to._carb_re_proposed_regulation_to_implement_the_low_carbon_fuel_standard__lcfs_.pdf

Original File Name: Ltr to. CARB re Proposed Regulation to Implement the Low Carbon Fuel Standard (LCFS).pdf

Date and Time Comment Was Submitted: 2009-04-20 09:13:45

No Duplicates.

Comment 132 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bill
Last Name: Magavern
Email Address: Non-web submitted comment
Affiliation:

Subject: Re: Low carbon Fuel Standard
Comment:

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Non-web submittal
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Attachment: www.arb.ca.gov/lists/lcfs09/241-sierra_club_comment.pdf

Original File Name: Sierra_Club_Comment.pdf

Date and Time Comment Was Submitted: 2009-04-20 09:40:41

No Duplicates.

Comment 133 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Blake
Last Name: Simmons
Email Address: basimmo@sandia.gov
Affiliation:

Subject: Call for 3rd Party Review of Indirect Effects Provision
Comment:

```
Please accept the following request for 3rd party analysis of iLUC
and other indirect carbon effects for all fuels. Thanks.
```

Attachment: www.arb.ca.gov/lists/lcfs09/244-further_study_iluc_ca_lcfs.pdf

Original File Name: Further Study iLUC CA LCFS.pdf

Date and Time Comment Was Submitted: 2009-04-20 10:30:00

No Duplicates.

Comment 134 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Chris
Last Name: Bellizzi
Email Address: Chris13b@ix.netcom.com
Affiliation: www.bellizzitree.com

Subject: When implementing LCFS must put all fuesl on equal footing
Comment:

When judging fuels for carbon intensity all fuels must take into account all cradle to grave carbon adding activites that includes pumping salt water into oil wells and transportation to refinery. I believe we should have a tax on fuel directly tied to the distance it is transport,there by carbon footprint.
Please do not include Bio-Diesel in with Ethanol.The only way Ethanol will work in California is with a lot of transportation from mid-west states, that is carbon intensive.Bio-Diesel is made in Las Vegas with very little transportion footprint.I believe this board is dead set against California getting Energy independent.
Please do not destroy the chance of locally produced Bio-Diesel form competing against regualer Diesel.

Attachment: www.arb.ca.gov/lists/lcfs09/245-p1010024.jpg

Original File Name: P1010024.JPG

Date and Time Comment Was Submitted: 2009-04-20 10:33:01

No Duplicates.

Comment 135 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Charles (Chuck)
Last Name: White
Email Address: cwhite1@wm.com
Affiliation: Waste Management

Subject: Comments on Low Carbon Fuel Standard (LCFS)
Comment:

```
Dear CARB --

Please accept the attached comments on the LCFS from Waste
Management.

Sincerely

Charles (Chuck) A. White
Waste Management
Government Affairs/West
```

Attachment: www.arb.ca.gov/lists/lcfs09/247-final_comment_letter_on_lcfs.pdf

Original File Name: Final comment letter on LCFS.pdf

Date and Time Comment Was Submitted: 2009-04-20 10:50:54

No Duplicates.

Comment 136 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: george
Last Name: vandel
Email Address: gvan3@pie.midco.com
Affiliation:

Subject: support for regulation to implement low carbon fuel standard
Comment:

I support your rules to require fuels to meet certain standards as to their total, overall carbon impact. Corn based ethanol is a prefect example of an industry with an overall highly negative carbon impact.

I live in central South Dakota and spent over 20 years as the state's cheif wildlife biologist. I witnessed firsthand the impact on the land that the corn ethanol boom created. SD has a cumulative 10 year loss of 1,000,000 acres of grass. This loss is directly tied to the development and growth of corn based ethanol in SD. The demand for corn to convert into ethanol created a corn planting frenzy that is only be rivaled by the wheat boom of the 1970s and the homestead sod conversion that occurred in the late 1800s.

To meet the demand for corn created by the ethanol refineries farmers have converted native prairie to farm corn, removed land that had been idled by conservation progrms and found loopholes in existing swampbuster regulations to drain wetlands. Annual losses of native prairie have averaged about 300,000 acres per year - much of loss occuring in the prairie pothole region of eastern SD which provides nesting cover for numerous species of grassland dependant migratory birds. Although draining small isolated wetlands by "whole field pattern tiling" may not directly increase significat addtional corn acreage the practice is profitable and in high demand because it allows farmers to move their corn planting equipment faster and more efficiently thus providing additional corn acres they can farm which means higher profits. Finally, due to the high prices and demand for corn, farmers are putting less land into conservation practices and are letting enrollements in programs such as CRP (Conservation Reserve Program) expire.

The total cumulative impact that corn based ethanol is having on the land is a significant reduction in acres of native prairie, a loss of wetland acres (especially small isolated prairie pothole wetlands) and a declining interest in conservation programs. All resulting in a significant loss of habitats that are critical to hold and/or sequester carbon.

Please also be aware that the cost of the above negative impacts to the land (and to the carbon allowed to escape) is being paid for by taxpayers. Corn based ethanol is triple subsidized 1) the farming of corn is highly subsidized by USDA 2) the ethanol distileries are provided a per gallon Fed. govt. payment and finally 3) ethanol at the pump is taxed at a lower rate than regular, unleaded gasoline. Despite these heavy taxpayer

subsidies, the corn based ethanol industry remains a "house of cards" and is barely able to keep profitable. Finally, ethanol blends provide lower mileage than traditional non-leaded gasoline and ethanol is priced competatively with gasoline only due to the triple subsidies. If the overall environmental cost of loss of grassland and wetlands habiat and the overall reduction of habitats available for countless migratory prairie nesting birds is combined with the accelarated loss of carbon, corn based ethanol should be seen as the scam on the public that it really is.

Please use sound science and not the corn based ethanol bs rethoric to uncover the true facts about this industry and the overall negative impact it is having on our environment.

Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-20 11:47:45

No Duplicates.

Comment 137 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jody
Last Name: Pollok-Newsom
Email Address: jpollok@micorn.org
Affiliation: Michigan Corn Growers Association

Subject: Low Carbon Fuel Standard Comments
Comment:

```
Please see attached file.
```

Attachment: www.arb.ca.gov/lists/lcfs09/249-carb_lcfs_comments.pdf

Original File Name: CARB LCFS Comments.pdf

Date and Time Comment Was Submitted: 2009-04-20 12:06:48

No Duplicates.

Comment 138 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Greg
Last Name: Karras
Email Address: gkatcbe@gmail.com
Affiliation: Communities for a Better Environment (CB

Subject: Proposed amendments to the LCFS 1 of 3
Comment:

```
This first attachment is our comment letter.
ARB should amend the proposed LCFS to:

â€¢ Add oil input quality caps for each refinery;
â€¢ Ban corn ethanol as a fuel; and
â€¢ Remove pollution trading as a "compliance" option.

ARB should not adopt the proposed LCFS without first, at a
minimum, making each of these three amendments. The reasons for
this are explained in this comment letter.
```

Attachment: www.arb.ca.gov/lists/lcfs09/250-cbe-lcfs-042009.pdf

Original File Name: CBE-LCFS-042009.pdf

Date and Time Comment Was Submitted: 2009-04-20 12:27:16

No Duplicates.

Comment 139 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Adam
Last Name: Liska
Email Address: aliska2@unl.edu
Affiliation: University of Nebraska

Subject: Review article on regulation of indirect effects: "Regulations vs Science"
Comment:

The science of economically-mediated indirect effects from the production of biofuels and fossil fuels is in its infancy. The study by Searchinger et al. (Science 2008) and other related works are the first attempts at defining significant indirect effects. In this case, deforestation and grassland conversion are only two of many indirect effects that alter global net greenhouse gas emissions from fuel production. In one of the few works published in a peer-review journal on this subject, professors Adam J. Liska and Richard K. Perrin at the University of Nebraska review the science of indirect effects of biofuel production in an article entitled “Indirect Land Use Emissions in the Life Cycle of Biofuels: Regulations vs. Science” in press in the journal Biofuels, Bioproducts, and Biorefining.

In addition to investigating indirect deforestation and grassland conversion alone, a more comprehensive assessment of the total GHG emissions implications of substituting biofuels for petroleum needs to be completed before indirect effects can be accurately determined. Our review found that indirect emissions from livestock and military security are particularly important, and deserve further research, in addition to numerous other factors. Attached please find a pdf copy of the article for review. The identified additional indirect emissions must be analyzed and included if these types of effects are to be regulated. By only accounting for land use change due to biofuels and not other indirect effects for both biofuels and petroleum, this regulation would be employing an arbitrary and biased standard.

Attachment: www.arb.ca.gov/lists/lcfs09/251-2009_liska_perrin_bbb.pdf

Original File Name: 2009 Liska&Perrin BBB.pdf

Date and Time Comment Was Submitted: 2009-04-20 12:35:35

No Duplicates.

Comment 140 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Greg
Last Name: Karras
Email Address: gkatcbe@gmail.com
Affiliation: Communities for a Better Environment (CB

Subject: Proposed amendments to the LCFS 2 of 3
Comment:

```
Fuel combustion for process energy causes greenhouse gas emissions
from oil refineries, and lower-quality oil requires more intensive
processing and more energy. This analysis compares process
intensity and energy with oil input quality across U.S. refining
districts during 2003-2007. Refining lower-quality oils caused a
large increase in refinery energy and emissions intensity, and
could cause a very large further increase in emissions/barrel if
the ongoing shift to lower-quality oil refining continues. Limiting
the worsening quality of refinery oil inputs is critical to our
environmental health.
```

Attachment: www.arb.ca.gov/lists/lcfs09/252-cbe_2009_refinery_ghg_emissions_fm_dirty_crude.pdf

Original File Name: CBE 2009 Refinery GHG emissions fm dirty crude.pdf

Date and Time Comment Was Submitted: 2009-04-20 12:39:17

No Duplicates.

Comment 141 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Greg
Last Name: Karras
Email Address: gkatcbe@gmail.com
Affiliation: Communities for a Better Environment (CB

Subject: Proposed amendments to the LCFS 3 of 3
Comment:

```
These are CBE's previous (12/08/08) comments on the LCFS, which are
reasserted and incorporated in our supplemental comments submitted
today.
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Attachment: www.arb.ca.gov/lists/lcfs09/253-cbe_previous_lcfs_comments_120808.pdf

Original File Name: CBE Previous LCFS Comments 120808.pdf

Date and Time Comment Was Submitted: 2009-04-20 12:42:05

No Duplicates.

Comment 142 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Shelly
Last Name: Sullivan
Email Address: Non-web submitted comment
Affiliation:

Subject: Alarm Regarding Impending LCFS -- CARB Mtg April 23
Comment:

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Non-web submittal
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Attachment: www.arb.ca.gov/lists/lcfs09/255-letter_to_the_govern_97cfa5.pdf

Original File Name: Letter to the Govern#97CFA5.pdf

Date and Time Comment Was Submitted: 2009-04-20 13:09:50

No Duplicates.

Comment 143 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Andrea
Last Name: Samulon
Email Address: andrea@ran.org
Affiliation: Rainforest Action Network

Subject: comments on the LCFS and agrofuels
Comment:

April 20, 2009

Mary Nichols
Chairman, California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

RE: The California Low Carbon Fuel Standard

Dear Chairman Nichols:

The California Low Carbon Fuel Standard (LCFS) should be an important step in the fight against global warming, particularly as it aims to reduce the carbon intensity of the state's transportation fuels by at least 10 percent by 2020. We fully endorse the principle of such a standard, however, we believe that changes to the draft legislation are needed to ensure that it will actually mitigate climate change. Specifically, the inclusion of agrofuels (industrial biofuels) threatens to undermine the impact of the legislation and could lead to it actually exacerbating global warming. Rules being developed by the California Air Resources Board (CARB) will dictate the future of California's transportation sector for the next two decades. The California LCFS is also likely to set a national precedent, as other states look to California as a model for how to achieve similar carbon reductions.

Provided that agrofuels are excluded, the LCFS could substantially reduce California's carbon emissions by penalizing oil companies for refining raw materials that have a higher a carbon footprint than that of conventional oil. The dirtiest of these raw materials include synthetic crude oil made from sticky bitumen mined from Canada's tar sands.

We encourage CARB to adopt a precautionary approach and to exclude agrofuels from the LCFS given current evidence of serious negative impacts on forests, climate and food security.
To ensure we obtain real reductions in carbon and achieve the full economic benefits of the LCFS without sacrificing California's and other domestic and international public lands, forests and sensitive ecosystems, it is critical to avoid pitfalls that would compromise the success of the regulation.

When considering the inclusion of agrofuels, it is important to recognize that emissions from indirect land use change (iLUC) are a

major source of pollution, loss of biodiversity and escalating food prices. There is no one standard methodology that has been accepted as a legitimate way of measuring all indirect impacts associated with agrofuels production whether they relate to climate, biodiversity or food security, among other issues. Yet, the risks of serious unintended consequences are real and well documented and cannot be fully addressed by the currently available methodologies that CARB has embraced.

• All standard methodologies for calculation of carbon intensity of biofuels both ignore indirect emissions and actually presume major 'indirect greenhouse gas savings' from the use of biofuel co-products. This is not a full accounting of the lifecycle of agrofuel production.

• Evidence provided by Paul Crutzen, Howarth et al., and Searchinger et al. among others, that indirect nitrous oxide emissions from agrofuels linked to the use of nitrogen fertilizer, or from legume monocultures, are far higher than suggested by IPCC methodology has not been fully assessed, nor has it been addressed in any way by the IPCC. This alone means that there is no scientifically credible way of calculating life-cycle greenhouse gas emissions from agrofuels.

Proponents of agrofuels claim that cellulosic and other "second generation" fuels will have a reduced carbon footprint. While these fuels are not yet commercialized, current evidence suggests they may have a worse environmental impact than fossil fuels. We know from peer-reviewed studies that every industrial agrofuel feedstock is more greenhouse gas emitting than petroleum. The lead author of one such peer-reviewed article, Joseph Fargione, has clearly stated "From a climate change perspective, current biofuels are worse than fossil fuels."

When all impacts are assessed, agrofuel production not only does not deliver reductions in greenhouse gases but actually increases global warming emissions, particularly when forests, peatlands and wetlands are converted as a direct or indirect impact of biofuels. The International Energy Agency estimates that over the next 23 years, the world could produce as much as 147 million tons of agrofuels. This will be accompanied by massive amounts of carbon and nitrous oxide emissions, erosion, and over 2 billion tons of waste water. Remarkably, this fuel will barely offset the yearly increase in global oil demand, now standing at 136 million tons a year—without offsetting any of the existing demand.

We cannot substitute one liquid fuel (petroleum) with another (agrofuel) which is just as destructive:

• To avoid the worst consequences of global warming, CARB must not only make our cars and trucks more fuel-efficient and less polluting, but work to provide real transportation alternatives such as expanding mass transit; creating bike and pedestrian-friendly cities.

• Also, CARB should work to encourage less overall consumption of energy, including transport fuels so that we do not continue to pursue inefficient and unsustainable alternatives, such as agrofuels, to meet our insatiable demand.

Thank you for your consideration of these comments and suggestions,

Rainforest Action Network
Food First—Institute for Food and Development Policy

Food and Water Watch
Organic Consumers Association
Global Justice Ecology Project
Dogwood Alliance
Biofuelwatch UK

Attachment: www.arb.ca.gov/lists/lcfs09/256-letter_to_carb_lcfs_and_agrofuels_4-20-09.doc

Original File Name: Letter to CARB LCFS and Agrofuels 4-20-09.doc

Date and Time Comment Was Submitted: 2009-04-20 14:14:04

No Duplicates.

Comment 144 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 145 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Tara
Last Name: McGovern
Email Address: tmcgovern@euca.com
Affiliation: EUCA

Subject: LCFS Impact on Diesel Engines
Comment:

CARB Members and Staff:

On behalf of the nearly 500 member firms of the Engineering & Utility Contractors Association, I encourage your consideration of the impacts of the proposed LCFS for on and off road diesel engines, along with the supply vs. demand impact on the cost of this fuel. The construction and transportation community has been significantly impacted by the portable equipment, on and off-road diesel engine regulations already. It is our understanding that there have not yet been any studies on the impacts of using low-carbon fuels in existing engines, nor how these fuels would perform when used in conjunction with retrofit devices.

We ask that these concerns be addressed prior to the implementation of this proposal.

Sincerely,

Tara McGovern
Director of Government Relations
EUCA

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-20 17:13:49

No Duplicates.

Comment 146 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jay
Last Name: McKeeman
Email Address: jaymck@cioma.com
Affiliation: CIOMA

Subject: CIOMA opposes LCGS
Comment:

```
Letter attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/261-cioma_lttr_o_oppose_lcfs_4-17-09.doc

Original File Name: CIOMA lttr o oppose LCFS 4-17-09.doc

Date and Time Comment Was Submitted: 2009-04-20 17:51:48

No Duplicates.

Comment 147 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jamie
Last Name: Knapp
Email Address: jamie@jknappcommunications.com
Affiliation:

Subject: Business Support for LCFS
Comment:

```
Business support letter attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/262-lcfs-biz-support_ltr-final-4-20-09.pdf

Original File Name: LCFS-Biz-Support Ltr-final-4-20-09.pdf

Date and Time Comment Was Submitted: 2009-04-20 18:27:38

No Duplicates.

Comment 148 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Pete
Last Name: Price
Email Address: pete@pricecon.com
Affiliation:

Subject: CA NGV Coalition -- Comments on LCFS
Comment:

```
Attached are comments from the California Natural Gas Vehicle
Coalition on the proposed LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/263-lcfs--comments_to_arb_4-20-09_2_.doc

Original File Name: lcfs--comments to arb 4-20-09(2).doc

Date and Time Comment Was Submitted: 2009-04-20 19:49:52

No Duplicates.

Comment 149 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Thomas
Last Name: MacDonald
Email Address: tom@tmacenergy.com
Affiliation: MacDonald Schwieger Associates

Subject: Time for a Rational New Alcohol Fuels Policy
Comment:

```
MacDonald Schwieger Associates, an independent transportation
energy consultancy based in Sausalito, California, submits the
attached comments in reference to the California Air Resources
Board's proposed Low Carbon Fuel Standard regulation.
```

Attachment: www.arb.ca.gov/lists/lcfs09/264-time_for_rational_alcohol_fuels_policy.doc

Original File Name: TIME FOR RATIONAL ALCOHOL FUELS POLICY.doc

Date and Time Comment Was Submitted: 2009-04-20 23:51:38

No Duplicates.

Comment 150 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Barry
Last Name: Wallerstein
Email Address: bwallerstein@aqmd.gov
Affiliation: SCAQMD

Subject: Low Carbon Fuel Std
Comment:

```
Please see public comment on behalf of SCAQMD
```

Attachment: www.arb.ca.gov/lists/lcfs09/265-scaqmd_comments_re_low_carbon_fuel_std_041709.pdf

Original File Name: SCAQMD Comments re Low Carbon Fuel Std 041709.pdf

Date and Time Comment Was Submitted: 2009-04-21 09:49:05

No Duplicates.

Comment 151 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Remy
Last Name: Garderet
Email Address: remy.garderet@einow.org
Affiliation: Energy Independence Now

Subject: LCFS support and additional comments
Comment:

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Please find attached Energy Independence Now's letter of support
for the LCFS, and additional comments on proposed enhancements to
the regulation.
Sincerely,
Remy Garderet.
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Attachment: www.arb.ca.gov/lists/lcfs09/266-ein_-_submission_to_the_lcfs_board.pdf

Original File Name: EIN - Submission to the LCFS Board.pdf

Date and Time Comment Was Submitted: 2009-04-21 09:52:14

No Duplicates.

Comment 152 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Space
Email Address: william.space@state.ma.us
Affiliation: MA Dept. of Environmental Protection

Subject: Comments from NE/Mid-Atlantic Commissioners
Comment:

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Please consider the attached comments on the proposed regulations
from the NE/Mid-Atlantic Commissioners
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Attachment: www.arb.ca.gov/lists/lcfs09/267-arb_lcfs_ltr_041709.pdf

Original File Name: ARB LCFS ltr 041709.pdf

Date and Time Comment Was Submitted: 2009-04-21 09:56:44

No Duplicates.

Comment 153 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jay
Last Name: Friedland
Email Address: info@pluginamerica.org
Affiliation: Plug In America

Subject: Comments on the Low Carbon Fuel Standard relating to Transportation Electrification
Comment:

(attached as a .pdf)
April 21, 2009

The Honorable Mary Nichols
Chair, California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

Re: Comments on the Low Carbon Fuel Standard relating to Transportation Electrification

Dear Chairman Nichols,

We applaud the California Air Resources Board (CARB) for its work in developing the proposed Low Carbon Fuel Standard regulation that can spur the creation of a new generation of clean transportation fuels and is a critical component of the State's plan for meeting its 2020 greenhouse gas reduction goals under AB 32.

Plug In America strongly supports ARB's adoption of the Proposed Regulations to Implement the Low Carbon Fuel Standard (LCFS), dated March 5, 2009. We also recommend that the Board include the language described by the California Electric Transportation Coalition as additions to the Board Resolution to adopt the LCFS.

We agree with the broad coalition of groups who believe that electricity is the ultimate ultra-low carbon fuel. We also agree there are complex issues that need to be addressed to secure the very substantial greenhouse gas reductions from the use of electricity as a transportation fuel. As such, we recommend that CARB adopt the three proposed CALETC Board Resolutions which will allow for more time to work on these issues with stakeholders, including the California Public Utilities Commission (CPUC), and report back to CARB at its next hearing on the LCFS in December 2009.

Thank you for your work to make California a leader in reducing greenhouse gas emissions and air pollution, and for your consideration of these comments and recommendations.

Sincerely,

Jay Friedland
Legislative Director

Plug In America

Attachment: www.arb.ca.gov/lists/lcfs09/268-pia-lcfsresponse042209.pdf

Original File Name: PIA-LCFSResponse042209.PDF

Date and Time Comment Was Submitted: 2009-04-21 10:31:04

No Duplicates.

Comment 154 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Patricia
Last Name: Monahan
Email Address: pmonahan@ucsusa.org
Affiliation: Union of Concerned Scientists

Subject: Letter from 177 Scientists and Economists
Comment:

See also:
www.ucsusa.org/biofuels-letter

April 21, 2009

Mary D. Nichols, Chairman
California Air Resources Board
Headquarters Building
1001 “I” Street
Sacramento, CA 95812

Dear Chairman Nichols,

As scientists and economists with relevant expertise, we are writing to recommend that you include indirect land use change in the lifecycle analyses of heat-trapping emissions from biofuels and other transportation fuels. This policy will encourage development of sustainable, low-carbon fuels that avoid conflict with food and minimize harmful environmental impacts.

Our comments are relevant to the development of California’s Low Carbon Fuel Standard (LCFS), which the Air Resources Board (ARB) will consider for adoption in its April hearing, as well as other policies that evaluate lifecycle heat-trapping emissions from biofuels. For policies like the LCFS to successfully reduce GHG emissions, it is critical to include all major sources of emissions, including indirect land use emissions from biofuels.

We encourage you to investigate and include significant direct and indirect emissions from all fuels, including conventional petroleum, heavy oils, natural gas for transportation, oil sand-based fuels, and the range of fuels used to power electrified transportation, consistent with the best available science. However, you should not delay inclusion of known sources of emissions, including indirect emissions from biofuels, pending discovery of potential effects from other fuels.

Recent peer-reviewed research indicates that conventional biofuels can directly or indirectly result in substantial heat-trapping emissions through the conversion of forests and grasslands to croplands to accommodate biofuel production. Increased demand for crops to make fuel results in higher global commodity prices that can induce farmers in other countries to plow up sensitive, high-carbon ecosystems—including rain forests in South America and Southeast Asia. Previous lifecycle analyses did not adequately account for these emissions, giving biofuels credit for greater

carbon savings than actually achieved.

There are uncertainties inherent in estimating the magnitude of indirect land use emissions from biofuels, but assigning a value of zero is clearly not supported by the science. The data on land use change indicate that the emissions related to biofuels are significant and can be quite large. Grappling with the technical uncertainty and developing a regulation based on the best available science is preferable to ignoring a major source of emissions. Over time, greater accuracy and detail in a more refined analysis can be reflected in future LCFS rulemakings.

The need to address uncertainties applies to other areas the analysis as well, and we urge you to evaluate the increasing use of nitrogen fertilizers and herbicides associated with greater biofuel production. In particular, nitrogen fertilizers enhance the emission of nitrous oxide—a powerful greenhouse gas in Earth's atmosphere.

To spur innovation in low carbon fuels, the LCFS must send an accurate signal to the growing clean energy market. Strategic investment decisions should be based upon the best available data of the carbon footprint of alternative fuels. Failure to include a major source of pollution, like indirect land use emissions, will distort the carbon market, suppress investment in truly low carbon fuels, and ultimately result in higher emissions.

The work you are doing in California sets an important precedent for transportation fuel policy nationally and internationally, as well as for action to confront climate change more broadly. We urge you to ensure that your policies are based on the best science, including consideration of emissions from indirect changes in land use.

Sincerely,
- Original Authors -

PAM MATSON, Ph.D.
Chester Naramore Dean of the School of Earth Sciences
Richard and Rhoda Goldman Professor of Environmental Studies
Stanford University
Stanford, CA
Member of the United States National Academy of Sciences

STUART L. PIMM, Ph.D.
Doris Duke Professor of Conservation Ecology
Nicholas School of the Environment and Earth Sciences
Duke University
Durham, NC

WILLIAM SCHLESINGER, Ph.D.
President
Cary Institute of Ecosystem Studies
Millbrook, NY
Member of the United States National Academy of Sciences

PETER C. FRUMHOFF, Ph.D.
Director of Science and Policy
Chief Scientist, Climate Campaign
Union of Concerned Scientists
Cambridge, MA

W. MICHAEL HANEMANN, Ph.D.
Chancellor's Professor
Department of Agricultural and Resource Economics
University of California, Berkeley
Berkeley, CA

For full list of 177 signers, go to:
www.ucsusa.org/biofuels-letter

Attachment: www.arb.ca.gov/lists/lcfs09/269-biofuels_and_land_use_letter.pdf

Original File Name: biofuels_and_land_use_letter.pdf

Date and Time Comment Was Submitted: 2009-04-21 10:42:31

No Duplicates.

Comment 155 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Geoff
Last Name: Cooper
Email Address: GCooper@ethanolrfa.org
Affiliation:

Subject: Renewable Fuels Association
Comment:

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Please see attached.
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Attachment: www.arb.ca.gov/lists/lcfs09/270-rfa.pdf

Original File Name: RFA.pdf

Date and Time Comment Was Submitted: 2009-04-21 11:20:28

No Duplicates.

Comment 156 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William J.
Last Name: Hudson
Email Address: bill@proexporter.com
Affiliation: PRX

Subject: Comment on CARB Staff Proposal of March 5, 2009
Comment:

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Objections to CARB Staff Proposal on Land Use Change, resubmitted
from April 15, acknowledged as Comment 99 for lcfs09 (45 day), but
not listed today, April 21, on the list of received comments
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Attachment: www.arb.ca.gov/lists/lcfs09/271-hudson_carbobjections.pdf

Original File Name: Hudson_CARBobjections.pdf

Date and Time Comment Was Submitted: 2009-04-21 12:00:58

No Duplicates.

Comment 157 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Rahul
Last Name: Iyer
Email Address: rahul.iyer@primafuel.com
Affiliation: Primafuel, Inc.

Subject: Early action is critical
Comment:

April 10th 2009
Mary Nichols, Chair
California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Comments on Draft Low Carbon Fuel Standard Regulation

Primafuel strongly supports expeditious implementation of the California Low Carbon Fuel Standard (LCFS) as an early action measure to meet GHG reduction obligations under AB32. Further delay in implementation of the LCFS is unacceptable from a political, economic, and environmental perspective.
Primafuel views the LCFS as one of the most effective technology-neutral forms of regulation, and with proper implementation it should generate clear and actionable price signals to motivate the development and uptake of lower carbon fuels.
Efficiency in Fuel Pathway Modification and Development: With this market-minded view of the regulations, we believe that it is imperative that the process for proposing new or modified fuel pathways must be highly efficient. In order for the LCFS to result in more rapid development of sustainable low-carbon fuels, the process must be substantially more dynamic than current programs in which the Air Resources Board verifies and approves emissions reduction technologies. New and modified pathways must be able to address both direct and indirect emissions associated with the pathway in order to incentivize the development and adoption of best practices and technologies.
The heated debate over Indirect Land Use Change (iLUC) impacts and iLUC inclusion in life-cycle analysis should not result in a delay in the implementation of LCFS. With that said, the level of uncertainty, even in direction, of iLUC calculations are high. As such, the ability to propose new and modified fuel pathways that include changes to emissions associated with iLUC is critical. It was noted at the March 27th meeting by CARB staff that an expanded Method 2B could provide a process by which iLUC modifications might be considered. Further, it must be understood that the very notion of iLUC is an artifact of regulatory jurisdiction. The attempt to include iLUC in life-cycle analysis is an attempt to quantify leakage, which is both an important part of sound regulation and the letter of the law. Because iLUC is a jurisdictional artifact, changes in land-use driven by policies and economic conditions outside California become materially relevant to California’s LCFS.

For example, more effective enforcement of forest protection laws in other countries must by nature impact the iLUC component of the life-cycle analysis of a fuel pathway.

Inclusion of Indirect Effects of all Pathways and Other Industries: If reduction of greenhouse gas emissions is the indeed the primary function of the LCFS, then industry supported ecosystem protection is precisely the type of result that policy-makers should desire. Unfortunately, dramatic changes in global native-ecosystem protection is unlikely to be driven by the comparatively small biofuels industry. When compared to other industries that drive land-use change (pulp & paper, timber, cattle, oil & gas, real estate development, etc.) the biofuels industry is a new and weak force. It is for this reason that as other segments of the California economy are regulated under AB32, direct and indirect impacts of those industries must be considered.

Prior to these expanded regulatory considerations, the myriad indirect impacts of other fuel pathways must also be considered under the LCFS. The causality between expanded biofuels use in California and iLUC impacts outside of California is assumed to be commodity pricing, this is at the heart of economic equilibrium models like GTAP. As such, indirect sources of emissions driven by commodity price changes caused by the expanded use of other fuel-pathways must be considered, even when these indirect sources of emissions are not land-use changes.

Primafuel and our partners thank the California Air Resources Board for the opportunity to participate in this vitally important rule-making process.

Best regards,

Rahul Iyer

Chief Strategy Officer
Primafuel, Inc.
rahul.iyer@primafuel.com

Attachment: www.arb.ca.gov/lists/lcfs09/273-lcfscomments0-april10-2009.pdf

Original File Name: LCFScomments0-April10-2009.pdf

Date and Time Comment Was Submitted: 2009-04-21 12:35:23

No Duplicates.

Comment 158 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jamie
Last Name: Knapp
Email Address: jamie@jknappcommunications.com
Affiliation:

Subject: Support LCFS
Comment:

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Support letter from Clean Cities groups
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Attachment: www.arb.ca.gov/lists/lcfs09/274-ca_ccc_lcfs_support_letter_4.21.09.pdf

Original File Name: CA CCC LCFS Support Letter_4.21.09.pdf

Date and Time Comment Was Submitted: 2009-04-21 13:14:44

No Duplicates.

Comment 159 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Kozak
Email Address: Atlanticbiomass@aol.com
Affiliation:

Subject: Comments on LCFS
Comment:

Comments attached.

Attachment: www.arb.ca.gov/lists/lcfs09/275-california_low_carbon_fuel_comments_final.pdf

Original File Name: California Low Carbon Fuel Comments Final.pdf

Date and Time Comment Was Submitted: 2009-04-21 13:28:42

No Duplicates.

Comment 160 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Shelby
Last Name: Neal
Email Address: sneal@biodiesel.org
Affiliation: National Biodiesel Board

Subject: LCFS Comments
Comment:

I am writing to share a number of suggestions members of the National Biodiesel Board (NBB) believe would enhance the "Proposed Regulation to Implement the Low Carbon Fuel Standard," published March 5, 2009. Thank you, in advance, for your consideration of our industry's recommendations.

First, I would like to express our appreciation for the high level of cooperation shown by the Air Resources Board (ARB) staff up to this point in time. While we continue to believe the implementation schedule for diesel is unnecessarily back loaded and we continue to have one significant difference of opinion on the lifecycle assessment for soy-based biodiesel, when taken as a whole, we feel the ARB is doing a commendable job, particularly in light of the immensely challenging time constraints the agency has been given. So it is on this basis, and with the understanding that ARB staff will continue to work collaboratively on potentially difficult issues like indirect lifecycle greenhouse gas (GHG) impacts, that we offer our support for moving forward with the draft regulation.

With regard to specific comments, the NBB wishes to communicate the following points related to issues that will be considered by the board for approval this week:

1. We continue to be puzzled by the ARB's resistance to accelerating the diesel implementation schedule, particularly in light of a study we forwarded to staff which conclusively shows price and supply should not be concerns. It is important to note that, under the current schedule, the low carbon fuel standard (LCFS) will not begin requiring more biodiesel to be sold in the state than is currently sold until at least the fourth year of the program. And California biodiesel plants' current production capacity will likely not be exceeded until the fifth year of the program. Ultimately, this overly cautious implementation schedule will only serve to delay development of a California-based industry that has significant potential for improving the environment and supplying green jobs during a historically challenging economic time.

2. With respect to the CA-GREET model for soy-based biodiesel, the ARB should, in our view, use a consistent co-product allocation method. Employing the displacement method for corn-based ethanol and the energy allocation method for soy-based biodiesel defies logic given their inherent and rather obvious similarities. No other government does it this way. This decision is particularly

harmful because the chosen methods result in the worst possible assessment for each fuel. And in the case of soy-based biodiesel, the error is compounded because the ARB adds GHG emissions associated with the inefficiency inherent in livestock feed uptake to the oil/biodiesel side of the equation. This is illogical since the amount of energy that animals metabolize has nothing to do with the oil/biodiesel side of the GHG assessment; those GHG emissions should be counted on the meal side since they are related 100 percent to livestock feeding within the animal production industry. Further, it is important to understand that soybean oil has historically been viewed by the soybean industry as a by-product rather than a co-product. Even with the development of biodiesel, the majority of the value of a soybean continues to reside in the meal. As such, it is common knowledge that farmers grow soybeans for the meal and not the oil. This makes it doubly inaccurate to add GHG emissions associated with meal/livestock feed to oil/biodiesel.

3. With respect to the lifecycle analysis for direct emissions related to petroleum-based diesel production, it is difficult to understand why the ARB would only assess the fuels that are produced in-state, since these fuels merely comprise one-third of the fuels sold in California. It has been said that this data is difficult to obtain, so one is left to conclude that the default value in GREET is simply being used by the ARB for the sake of convenience. Given that many view GREET’s assessment of petroleum to be favorable to that industry, we urge the ARB to reconsider its decision to not conduct a full lifecycle assessment of petroleum-based diesel fuels produced outside California.

4. We wish to point out that the “system boundaries” of the direct emissions models for petroleum-based diesel and soy-based biodiesel are inconsistent in so far as GHG emissions related to oil exploration and oil well drilling are not included in the ARB’s assessment while GHG emissions associated with soybean planting are included in the ARB’s emissions figure. Clearly, a direct parallel exists between oil well drilling and soybean planting. Unfortunately, this goes unrecognized in the ARB’s model, compromising its accuracy. As such, we respectfully request that this difference in system boundaries be remedied by adding GHG emissions associated with oil exploration and drilling to the petroleum-based diesel total.

Regarding issues related to indirect impacts associated with GHG lifecycle analysis that were included in the draft regulation but will not be considered for approval by the board this week, we have the following comments.

1. We respectfully urge the ARB to take its time with regard to work on indirect land use change (ILUC) modeling. While we support investigating this issue fully, and wish to participate in and contribute to the effort in any way possible, we are keenly aware that the data and models needed to properly assess this issue are not yet available. Since the LCFS is not, in a real sense, implemented until 2011, and more biodiesel will not be required until 2014 than is currently sold in the state, we see no reason to rush to judgment on this issue in the very near term. Rather than prematurely publishing a half-baked result, we recommend investigating ILUC until January of 2011 when the LCFS is actually implemented but could still be met quite easily with California-produced ultra low carbon biodiesel from recycled cooking oil. This approach would be much more in keeping with

generally accepted scientific principles. It is also interesting to note that the European Commission is employing just such a strategy by moving forward with implementation of its renewable fuels mandate, but not including a factor for ILUC until 2017. While we are not advocating for the ARB to wait until 2017 to address ILUC, we do feel strongly that a one-year deferral would inform thought on this issue significantly by providing more time for data gathering and model improvement and development.

2. In our view, the fact that the ARB has indicated it will not perform an assessment of indirect GHG impacts associated with petroleum-based diesel represents a flaw in the agency's analysis. While ARB staff are on record indicating this information is difficult to find and would likely result in only minor modifications to petroleum's GHG reduction assessment, the same statements could also be made about soy-based biodiesel as it relates to global land use changes and the causes of those changes. In the latter case, rather than using a factor of zero as the ARB has for petroleum-based diesel, the agency has, in truth, simply ventured a guess to derive a "temporary" number – a number which, by the way, is quite large. Ultimately, this is clearly an instance in which petroleum diesel and biodiesel are treated very differently, resulting in a less accurate analysis, in general, and a less favorable analysis for biodiesel, in particular.

3. The ARB does not include historical yield trends in its modeling. With all due respect, this is a catastrophic error that could distort the modeling results by a factor of 80 percent or more. At the most recent ARB public workshop, John Sheehan from the University of Minnesota presented data from a model he developed with the Natural Resources Defense Council which showed that once a historical yield trend is included in the analysis, the ILUC factor becomes zero because the higher productivity of agricultural land means there is more than enough crops available to address both energy and food needs. The NBB, as strongly as possible, encourages the ARB to reconsider its position on this issue. Although the ARB's current approach is simpler and easier, it distorts the final results immensely, perhaps to the point of needlessly cancelling the only compliance pathway capable of meeting the ten percent diesel reduction target.

4. As a follow-on to point number three above, the ARB should recognize the GTAP model's major weakness – that it assumes supply and demand are always in equilibrium. The ARB should address this shortcoming by adding a component to the model that can account for increasing yields, which would allow the model to show greater supply than demand over the long-term. Since substantial data exists showing supply and demand in the agriculture industry are never in balance, it is difficult to understand why the ARB would use this model for long-term forecasting. (Notably, one of the ARB's own peer reviewers made this same point in his recent response to the draft regulation by stating that GTAP should not be used for forecasting periods longer than 15 years). This limitation of the GTAP model is precisely why the ARB was unable to verify its ILUC model against 2001-2007 corn data. Of course, this is not entirely unexpected since the GTAP model was never intended for the purpose for which it is being used by the ARB.

5. Page X-4 of the proposed regulation states that "The lowest cost way for many farmers to take advantage of these higher commodity prices is to bring non-agricultural lands into production." This assumption causes the ILUC model to predict that a significant amount of new land will be brought into agricultural

production, artificially increasing the ILUC factor and thus decreasing biodiesel's GHG benefits. We would be interested in seeing any data the ARB has that shows clearing land for additional plantings is less expensive than improving agricultural practices such as purchasing higher quality seed varieties. Based on our calculations, the math does not come close to supporting this assumption, meaning the ARB believes farmer-businesspeople will consistently – and on a long-term, worldwide basis – make decisions counter to their economic best interest.

6. With respect to GHG modeling, the ARB mentions the words "full transparency" in the draft regulation on multiple occasions. We are pleased to state that this has been the case with regard to the direct emissions model, CA-GREET. To date, however, this has not been the case with respect to ILUC/GTAP modeling. ARB staff have indicated at public meetings that the GTAP model is publicly available. Unfortunately, this is only technically true because to gain access to the model one has to pay Purdue University a sum of approximately $9,000. And even if one musters the financial resources to access the GTAP model data, he or she still would not know what assumptions had been changed by ARB staff and contractors because that information has not been made available to the public. Given the extreme importance of the ILUC modeling effort to the biodiesel industry and the fact that the ARB appears to be moving forward on this issue at a very rapid pace, we would hope all data related to this work would be made publicly available in the very near term so that organizations such as ours could participate meaningfully in the effort. As it stands currently, we have contracted with a noted expert in the field to analyze ARB's work who is unable to do so because no significant information has been released.

7. While we have a high level of confidence in the intellectual integrity of the ARB, we cannot help but note that most governments and organizations which employ a peer review process mismanage it by hand picking a few like-minded junior professors from a small set of geographically diverse institutions. Typically, these exercises have the effect of rubber stamping the agency's views rather than informing the process. As such, we urge the ARB to be exceptionally thoughtful with regard to how it manages the peer review process. Specifically, we suggest a fully transparent and unbiased process that focuses on soliciting opinion from the premier North American experts in this area.

Thank you, in advance, for your kind consideration of our comments. Again, we very much appreciate the cooperation of ARB staff and the opportunity to work with the agency on this important policy. If you should have any questions, I hope you will feel free to call me at any time.

Attachment: www.arb.ca.gov/lists/lcfs09/276-ca_lcfs_comment_from_nbb.pdf

Original File Name: CA LCFS comment from NBB.pdf

Date and Time Comment Was Submitted: 2009-04-21 13:49:03

No Duplicates.

Comment 161 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Cathy
Last Name: Reheis-Boyd
Email Address: cathy@wspa.org
Affiliation: WSPA

Subject: WSPA comments on LCFS Regulation
Comment:

```
Please find attached, WSPA's comments for submittal to the docket
on the LCFS regulatory hearing on Thursday April 23.
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Attachment: www.arb.ca.gov/lists/lcfs09/277-wspacommentsonlcfsreg_409combined.pdf

Original File Name: WSPAcommentsonLCFSreg 409Combined.pdf

Date and Time Comment Was Submitted: 2009-04-21 14:25:56

No Duplicates.

Comment 162 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Wilson
Email Address: William.Wilson@ndsu.edu
Affiliation:

Subject: comments on land use and the proposed LCFS
Comment:

```
I am attaching my comments.

Could you please confirm receiving these.

Thanks in advance,

William W. Wilson
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Attachment: www.arb.ca.gov/lists/lcfs09/278-carb1.pdf

Original File Name: carb1.pdf

Date and Time Comment Was Submitted: 2009-04-21 14:30:40

No Duplicates.

Comment 163 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Brian
Last Name: Jennings
Email Address: bjennings@ethanol.org
Affiliation: American Coalition for Ethanol

Subject: ACE comments on ILUC in LCFS
Comment:

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The attached compressed file contains ACE's comments and studies
listed as references.
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Attachment: www.arb.ca.gov/lists/lcfs09/279-carb_lcfs.zip

Original File Name: CARB LCFS.zip

Date and Time Comment Was Submitted: 2009-04-21 14:33:30

No Duplicates.

Comment 164 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Thomas
Last Name: Jacob
Email Address: tom.jacob@usa.dupont.com
Affiliation: DuPont Company

Subject: Low Carbon Fuel Standard
Comment:

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Attached please find DuPont's comments on the proposed Low Carbon
Fuel Standard.  Please feel free to contact me if you have any
questions.   Tom Jacob
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Attachment: www.arb.ca.gov/lists/lcfs09/280-dupont_comments_-_lcfs_april_comments__4-21-09_.pdf

Original File Name: DuPont Comments - LCFS April Comments _4-21-09_.pdf

Date and Time Comment Was Submitted: 2009-04-21 15:17:13

No Duplicates.

Comment 165 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jim
Last Name: Steitz
Email Address: jimsteitz@mac.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

Jim Steitz
357 Vista Street Apt. 5
Ashland, OR 97520

April 21, 2009

Mary Nichols, Chair
California Air Resources Board
1001 "I" Street/P.O. Box 2815
Sacramento, CA 95812

Dear Chairwoman Nichols,

I write to urge the California Air Resources Board to include only truly lower-carbon fuel sources in its pending Low Carbon Fuels Standard, and to therefore specifically exclude agro-fuels made from human food crops. There is a great danger that the new low-carbon standard will actually increase California's contribution to global warming by promoting the use of agro-fuels that actually cause more carbon dioxide pollution, not less.

The existing studies on the carbon metrics of agro-fuels are clear and unambiguous. When America burns fuels made from agricultural crops, it is a marginal or break-even proposition within America and a dramatic increase in carbon emissions globally, as additional demand bears upon agricultural commodity production. This demand results in the destruction of rainforests and peatlands, releasing vast stores of biological carbon that dwarf any possible savings from displaced oil use. CARB must adopt a fuel standard that is based upon empirical fact, not fiction formalized in a policy document. If California allows agro-fuels into its new fuels standard, it will dramatically increase California's contribution to global warming. No plausible argument can be made against this mathematical fact.

CARB's decision on the agro-fuels issue is likely to set a precedent for other states. A substantial national adoption of agro-fuels will destroy whatever chance remains of substantially mitigating global warming. America's foray into ethanol has already consumed approximately ¼ of America's corn harvest, with nothing to show except mega-soybean plantations in the Amazon where once rainforest existed. In fact, the low-carbon fuels standard should provide a specific penalty for fuels with an extra-high impact on carbon emissions, above and beyond that of conventional oil, including ethanol and gasoline derived from Canada's "tar-sands" oil. Only a true and accurate life-cycle assessment of carbon

impact can accurately guide the CARB standard, and such an impact must exclude and specifically discourage agro-fuels and tar sands.

In addition to the impact of driving up global demand for commodity crops, several studies, including Crutzen and Howard et al. shows that nitrous oxide emission from heavy fertilizer application contributes to global warming far more than previously appreciated. Also, the fuel-intensive organization of the agriculture industry ensures that every step of the process entails significant energy consumption, resulting in a large amount of “embedded emissions” in the final ethanol or other agro-fuels product. The processes of harvesting, processing, transportation, and refining are extremely fuel-intensive, and often involve coal-fired electricity or direct emissions of extremely potent greenhouse gases such as methane or nitrous oxide. In addition, because the demand for land to grow most commodity crops is fungible, American demand for corn is spread across the markets for all other crops, including those at the frontier of ecological destruction such as soybeans.

Again, please exclude high-carbon agro-fuels from the new low-carbon standard, and provide specific penalties for especially high-carbon fuels such as ethanol and gasoline from tar sands oil. I submit that an intellectually honest and accurate assessment of the various liquid fuel sources and feedstocks can lead to no other conclusion. Thank you for your attention to this urgent issue.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-21 15:19:47

No Duplicates.

Comment 166 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Arlan
Last Name: Suderman
Email Address: asuderman@farmprogress.com
Affiliation:

Subject: Land Use Charge on Biofuels
Comment:

I greatly respect the leadership that California is providing as it seeks to be a good steward of the environment we live in. However, I have significant concerns about the volume of old and misleading data being used to shape public opinion on the land use charge for biofuels. Based on the comments submitted, I see that many people's opinions have been shaped by this old data that could lead to a decision that is actually more detrimental in achieving your goals of a healthy environment.

My success as a commodity analysts is not dependent on whether you approve or disapprove the land use charge. My success though is dependent on my thorough data analysis to sort through anecdotal reports, assumptions and misleading information to get to the truth. I simply analyze the facts as they're uncovered.

Ironically, I have found the land-use charge for biofuels issue to be one of the most frustrating. The vast majority of public opinion appears to be passionately shaped by old outdated studies that fail to account for the significant shifts in technology achieved in recent years, or it's simply based on long-held assumptions that color one's interpretation of the facts.

I won't take your time to review the facts, as I see from comments already submitted that the biofuels industry has done an excellent job of detailing changes in model results that accurately reflect the facts that I've been able to uncover. I urge you to carefully consider this data from highly respected models that have been updated in the past couple of years to reflect current technology. Only then can we be assured of a quality decision that truly reaches our objective of a healthier and cleaner environment.

I greatly appreciate your time and consideration,

Arlan Suderman
Market Analyst
Farm Futures

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-21 15:33:02

No Duplicates.

Comment 167 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bill
Last Name: Magavern
Email Address: bill.magavern@sierraclub.org
Affiliation: Sierra Club California

Subject: California Low Carbon Fuel Standard
Comment:

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

RE: California Low Carbon Fuel Standard

Dear Chairman Nichols and Board Members:

Sierra Club California believes reducing the carbon intensity of transportation fuels should play an important part in cutting overall greenhouse gas emissions. We compliment the Air Resources Board for recognizing that we need to simultaneously green the fuels used in our cars and trucks, improve vehicle technologies, and reduce vehicle miles travelled.

Adoption of the Low Carbon Fuel Standard will protect California from the dirtiest fuels. Production of high-carbon intensity fuels, including those derived from Canadian and U.S. tar sands, oil shale, and liquid coal, will emit as much as three to six times GHG emissions as conventional oil, threatening to undermine California's many efforts to reduce transportation emissions. The development of these ever-dirtier fossil-fuel sources to produce transportation fuels has enormous consequences not only for our climate, but the air we breathe, the water we drink, and our wildlands and wildlife in North America. We applaud CARB's intent to provide additional pathways that distinguish between both lower carbon intensity fuels and higher carbon intensity fuels. Doing so will help ensure accurate accounting of emissions and establish a level playing field for all fuels.

We urge the Board to approve an LCFS that reduces greenhouse gas emissions from transportation fuels without damaging California's public lands, sensitive ecosystems, water or air quality. Therefore, we ask the Board to:

• Include the impacts of using land to produce biofuels. For California to be a global leader in reducing pollution from fuels, the LCFS must account for all major sources of emissions. For some biofuels, emissions from indirect land use change (iLUC) are a major source of pollution; California must include these emissions for the LCFS to be credible. We therefore appreciate that ARB has accounted for iLUC in the proposed regulation.
• Include the water impacts of producing biofuels.
The standard should factor in the costs of polluting groundwater and the stress on our water supply from biofuels production. California must avoid repeating the mistake of MTBE, which was

added to gasoline to reduce air pollution but caused a tremendous groundwater pollution problem. ARB could determine appropriate costs for water impacts by using a probabilistic (insurance) approach, or allow the insurance industry to make the calculations and provide actual insurance to cover future groundwater cleanups.

• Ensure the LCFS provides real pollution reductions and ushers in a new generation of ultra-low carbon fuels. The LCFS must be a platform for bringing ultra-low carbon fuels into the state's energy system, not just a mechanism to increase deployment of modestly lower-carbon fuels. Therefore, we request that ARB include ultra-low carbon fuel requirements. California must ensure that the LCFS generates true reductions in global warming pollution beyond current state and federal laws, and puts the state on a trajectory towards meeting our long-term emission reduction goals. If fuel providers meet federal fuel requirements by merely shuffling low carbon biofuels into California, no real carbon reductions will result from the LCFS, and fuel providers may have little incentive to develop ultra-low carbon alternatives.
• Remove Incentives for Landfilling Organic Wastes. The landfill gas to Compressed Natural Gas pathway fails to account for fugitive landfill emissions and should be re-evaluated before being adopted as a fuel pathway within the LCFS. We ask that additional technical review and modifications to the landfill to fuels pathway be made before final adoption of the pathway.

In addition, the approach to fuels developed from waste lacks balance because it does not provide a pathway to produce fuel from processes involving alternatives to landfilling organic materials. To level the playing field, we ask that the Board give staff direction to develop a fuel pathway for fuels from dedicated anaerobic digesters. Development of the additional pathway will provide an alternative path for waste to be used, in a manner that reduces landfilling and that further supports the multiple environmental objectives of ARB and AB 32.

• Ensure minimum land safeguards. The LCFS should include a definition of renewable biomass to help prevent unintended incentives for fuel production that result in ecological harm to our federal lands, forests, and other sensitive native ecosystems.

• Provide incentives for sustainable fuels. The final regulation should direct ARB staff to develop metrics to ensure the LCFS provides incentives for the development of broadly sustainable alternative fuels, while avoiding unintended support for fuels with negative impacts on our forests, agricultural lands, water, and other important natural resources.
• Protect air quality and public health. To avoid an unintended worsening of air quality and threats to public health from new fuel production or fueling infrastructure, the LCFS should include requirements for state and local review to ensure that the appropriate mitigation measures are taken. In addition, the LCFS should require a comprehensive public health analysis, using updated tools and data, of the fuels and infrastructure used to comply with the regulation.

Thank you for your work to make California a leader in reducing the pollution that causes global warming, and for your consideration of these comments and suggestions.

Attachment: www.arb.ca.gov/lists/lcfs09/284-lcfs_sierra_club_ca_letter.doc

Original File Name: LCFS Sierra Club CA letter.doc

Date and Time Comment Was Submitted: 2009-04-21 16:12:11

No Duplicates.

Comment 168 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ralph
Last Name: Moran
Email Address: moranrj1@bp.com
Affiliation: BP America

Subject: BP Comments to March 5 LCFS Proposed Regulation
Comment:

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Attachment: www.arb.ca.gov/lists/lcfs09/285-microsoft_word_-_bp_lcfs_comments_to_carb_4_09_final.pdf

Original File Name: Microsoft Word - BP LCFS Comments to CARB 4 09 Final.pdf

Date and Time Comment Was Submitted: 2009-04-21 16:45:32

No Duplicates.

Comment 169 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Matt
Last Name: Gregori
Email Address: mgregori@renewable-energyproducts.com
Affiliation: Renewable Energy Products, LLC

Subject: Implement the LCFS and accelerate it!
Comment:

Members of the ARB:
As a biodiesel producer in California, I urge you to not only implement the LCFS, but also to revise the standard to more quickly reduce GHG emissions in the state. Biodiesel produced in California from recycled feedstocks (we use tallow left over from the rendering process) can reduce carbon emissions by 70%. Californians could reduce the state's total carbon footprint by 1% by using just 35 million gallons of biodiesel per year statewide. That may sound like a lot of fuel, but our small facility alone anticipates bringing 10 million gallons of production on-line this year. Californians want to make a difference when it comes to climate change. We have the opportunity to help them make a difference sooner rather than later.

As a biodiesel user, I know that biodiesel is cleaner burning, better for my engine, sustainable, and made right here in California. Agressive implementation of the LCFS will make biodiesel more available to retail consumers as well as large fleets. Every diesel driver on the road could be contributing to the fight against global warming and helping to boost California's economy at the same time.

California has the drive and the resources to start reducing our carbon footprint as early as next year. The LCFS should set a more agressive goal for carbon reduction. Implement the LCFS and help us fight global warming today.

Sincerely,

Matt Gregori
General Manager
Renewable Energy Products, LLC
mgregori@renewable-energyproducts.com
O (562) 777-8196
F (562) 903-8911
M (310) 569-9623

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-21 17:43:49

No Duplicates.

Comment 170 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Stephen D.
Last Name: Burns
Email Address: stephen.burns@chevron.com
Affiliation: Chevron

Subject: Comments on LCFS Staff Report: Initial Statement of Reasons
Comment:

See attachment

Attachment: www.arb.ca.gov/lists/lcfs09/288-final_lcfs_04-21-09_carb.pdf

Original File Name: Final_LCFS_04-21-09_CARB.pdf

Date and Time Comment Was Submitted: 2009-04-21 17:57:20

No Duplicates.

Comment 171 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Tom
Last Name: Frantz
Email Address: tfrantz@bak.rr.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

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Opposition to the Low Carbon Fuel Standard as it is currently
written but support for the basic idea.

Tom Frantz
President, Association of Irritated Residents
Member of the Environmental Justice Advisory Committee for AB 32
Resident of the San Joaquin Valley
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Attachment: www.arb.ca.gov/lists/lcfs09/289-comments_on_the_lcfs_isor_by_tom_frantz_april_20__2009.doc

Original File Name: comments on the LCFS ISOR by Tom Frantz April 20, 2009.doc

Date and Time Comment Was Submitted: 2009-04-21 20:21:35

No Duplicates.

Comment 172 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Richard
Last Name: Tipper
Email Address: richard.tipper@ecometrica.co.uk
Affiliation: Ecometrica Ltd (UK)

Subject: Proposed Practical Approach for Managing Indirect Land Use Change
Comment:

We wish to propose a practical approach to dealing with Indirect Land Use change (ILUC) that seeks to address the underlying problem in an effective way.

Our proposed approach (attached) is based on a top down allocation of actual emissions associated with the land use change (LUC) attributable to commercial agriculture. This provides a proportionate response based upon the scale of the actual problem, rather than the output of a theoretical model.

The pool of allocated emissions is then reduced over time by attributing specific responsibility for emissions to actors (such as is being carried out within the Soy Moratorium).

As land use change is progressively managed (reduced), so the ILUC factor will reduce over time.

This method has been peer reviewed. Reviews are available at:
http://www.ecometrica.co.uk/ecometrica-press-2/land-use-change/

We are currently undertaking further research to develop this approach and have received interest from a number of European regulators and biofuel companies.

yours,

Richard Tipper
Managing Director
Ecometrica Ltd

Attachment: www.arb.ca.gov/lists/lcfs09/291-technical_paper_-_practical_approach_to_iluc_v1.2.pdf

Original File Name: Technical_Paper_-_Practical_Approach_to_ILUC_V1.2.pdf

Date and Time Comment Was Submitted: 2009-04-22 04:39:43

No Duplicates.

Comment 173 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jenny
Last Name: Bard
Email Address: jbard@alac.org
Affiliation: American Lung Association in CA

Subject: Support Strong Low Carbon Fuel Standard
Comment:

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Attached please find the American Lung Association in California's
Health Network for Clean Air letter in support of a strong Low
Carbon Fuel Standard.
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Attachment: www.arb.ca.gov/lists/lcfs09/292-low_carbon_fuel_standard_health_groups_ltr.pdf

Original File Name: Low Carbon Fuel Standard Health Groups ltr.pdf

Date and Time Comment Was Submitted: 2009-04-22 05:17:36

No Duplicates.

Comment 174 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jason
Last Name: Kvols
Email Address: jkvols@hotmail.com
Affiliation:

Subject: Renewable fuel
Comment:

I appreciate the concern coming from California in regards to reducing the amount of Carbon used in their fuels. Help me understand how producing a carbon neutral fuel like ethanol can be viewed as being bad for the environment. Compare regular unleaded gasoline with an E 10 blend. Less carbon released into the air.

There is no direct correlation between midwest crops and deforestation. Indirect maybe? What is comes down to is economics. Supply and Demand. Farmers in a particular geographical area will grow what is profitable for them to produce. Does it really come down to carbon at all?

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 05:51:43

No Duplicates.

Comment 175 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 176 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joshua
Last Name: Morby
Email Address: morby@nation-consulting.com
Affiliation: Wisconsin Bio Industry Alliance

Subject: Low Carbon Fuel Standard
Comment:

Chairwoman Nichols:

The Wisconsin Bio Industry Alliance applauds the efforts of the California Air Resources Board (ARB) to identify ways to curb greenhouse gas (GHG) emissions and to attempt to set the stage for the rest of the country to follow suit. California has consistently been at the forefront of the environmental movement, calling for thorough research of environmental impacts oftentimes in opposition to industry and even to policymakers in the nation's capital. For that, we should all be proud of your efforts.

It is for that very reason that I am writing to you today. As Executive Director of the WBIA, I urge the California ARB to move ahead with the Low Carbon Fuel Standard (LCFS) regulation for energy sources based on their direct effects only, until a time when further studies can be completed on Indirect Land Use Change (ILUC) and the indirect costs of all forms of energy can be analyzed. As it now stands, we cannot make policy decisions based on a flawed ILUC model that is being only selectively applied, before we've had the chance to fully explore the potential ramifications of land use change.

It's irresponsible to only apply the indirect costs associated with a type of fuel to corn-based ethanol alone, without applying the same principles to all types of fuel across the board. Doing so is equivalent to saying electric cars produce zero emissions, without considering that those very same electric batteries were produced through energy resources run on natural gas, or even via coal-fired power plants.
We agree that both direct and indirect land use impacts need to be considered when analyzing the carbon intensity of energy sources. The problem is, the ILUC model that the ARB staff is using applies the indirect costs only to corn-based ethanol—and thus, it ignores the indirect costs associated with all other alternatives.

Furthermore, singling out the ethanol industry could not come at a worse time. Our economy is in deep recession. Shutting down ethanol plants not only kills more jobs, it also destroys all incentive for further (and much-needed) investments in the cellulosic ethanol industry—one of the most promising alternative energy sources that has come about in decades. To put it simply, corn ethanol must increase—or at the very least, maintain—its market share in California to ensure continued support for cellulosic ethanol. If corn ethanol is not allowed to continue we will lose any chance to ever have cellulosic ethanol in the future.

The ILUC theory is a very controversial one that lacks scientific consensus, and which still needs considerable work before it can be applicable. Rather than applying it today, the California ARB should first work with industry to allocate resources for a thorough research deployment plan that is capable of looking at the ILUC theory from all angles, across all fuel types, in as transparent way as possible. We fully support a research deployment plan that plays out over a time period that is appropriate to answer the questions that still exist among the scientific community with regard to the ILUC theory and to achieve these vitally important goals for the betterment of all of California, and the nation as a whole.
I applaud your efforts to identify environmentally-sound alternative energy sources to reduce our dependence on foreign oil while drastically impacting our carbon footprint. But now is not the time for incorporating this flawed ILUC theory, into the ARB staff report.

Sincerely,

Joshua Morby
Executive Director
Wisconsin Bio Industry Alliance

Attachment: www.arb.ca.gov/lists/lcfs09/295-4.21.09_-_letter_to_carb.pdf

Original File Name: 4.21.09 - Letter to CARB.pdf

Date and Time Comment Was Submitted: 2009-04-22 07:53:57

No Duplicates.

Comment 177 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ellen
Last Name: Shapiro
Email Address: eshapiro@autoalliance.org
Affiliation: Alliance of Automobile Mfrs

Subject: Alliance supports LCFS; Be careful with EERs
Comment:

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The Alliance is pleased to submit comments on CARB's proposed rule
to implement the LCFS.  Our main concern is with the use of EERs,
which could undermine the program's effectiveness.
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Attachment: www.arb.ca.gov/lists/lcfs09/296-alliance_comments_on_carb_lcfs_proposed_rule_final_22april09.pdf

Original File Name: Alliance comments on CARB LCFS Proposed Rule final 22April09.pdf

Date and Time Comment Was Submitted: 2009-04-22 07:55:52

No Duplicates.

Comment 178 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Senator Mimi
Last Name: Walters
Email Address: senator.walters@sen.ca.gov
Affiliation: California State Senate

Subject: Opposition to Adoption of Low Carbon Fuel Standard
Comment:

April 21, 2009

Ms. Mary Nichols, Chairman
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Nichols,

I am writing to express my concerns regarding an upcoming agenda item involving the adoption of a regulation to implement the Low Carbon Fuel Standard (LCFS).

The goal of reducing Green House Gas emissions is admirable, but I am concerned that the proposed regulatory action as drafted will have a significant and adverse impact on California's economic health.

As drafted, the regulatory action will seek to reduce emissions by reducing the carbon intensity by an average of 10% by 2020 by forcing producers of transportation fuels to lower their carbon intensity each year. An initial concern I have is an acknowledgement that downstream retailers responsible for distribution of transportation fuel may be held responsible for carbon intensity of fuels they dispense and thereby be subject to fines and other enforcement mechanisms. Additionally, I have concerns that holding retailers (whom may be unable to afford the purchase of credits) responsible for meeting the LCFS will force many small businesses to close rather than be subject to ARB fines.

With respect to the purchasing of credits to come into compliance with the proposed regulation, I have very strong concerns. If credits are not available or cost prohibitive, what remedies exist on the part of fuel providers to come into compliance with the proposed regulation? Simply asserting that credits will be available does not mean they will be affordable. Additionally, I am concerned that credits may be hoarded by certain producers to artificially drive up the cost to other producers of transportation fuels.

While I have serious policy concerns about adopting the proposed regulation, I recognize that the ARB is required to adopt measures to comply with Assembly Bill 32. However, I believe that additional work should be done to accurately determine the effects

this regulation will have on the economy.

Staff of the ARB anticipated an increase in the number of ethanol, biodiesel and renewable hydrocarbon production facilities to comply with the LCFS requirements. My concern is that while that anticipation may be admirable, the current process to site and build these facilities does not assure their completion. My understanding is that the California Environmental Quality Act (CEQA) requires substantial work prior to the construction of many of these proposed facilities, and I have little confidence that the necessary permits will be granted in a timely manner to ensure compliance with the proposed regulation.

I would like to suggest that any adopted regulation contain a provision that if adequate capacity is not available to meet the new LCFS standards, the requirements to comply be waived until such capacity is available.

An additional concern I have about the proposed regulation is an assertion that there will be no significant impact on businesses for complying with this proposed regulation. This assertion is made even though an acknowledgement was made that additional annual costs for a typical business would be slightly less than $1 million. This amount may not seem like a significant figure to some, but I assure you that this is a significant substantial impact to businesses who are already struggling to stay afloat in the current economy.

As a final note of concern, I would like to suggest that the ARB reject any attempt to impose a new fee to provide revenue to enforce this proposed regulation. Asking businesses to pay even more to fund the enforcement of the LCFS standards only adds insult to injury. I would suggest that if the proposed regulation is sufficient to be implemented, then the costs of enforcement should be borne within the existing budget of the Air Resources Board.

I appreciate the work staff has performed to draft regulations to comply with AB 32. Thank you for your attention to this matter, and I appreciate the opportunity to share some of my thoughts and concerns.

Sincerely,

//s//

MIMI WALTERS
California State Senator, 33rd District

CC: Air Resources Board
Governor Arnold Schwarzenegger

Attachment: www.arb.ca.gov/lists/lcfs09/297-arb_regulatory_concerns.pdf

Original File Name: ARB Regulatory Concerns.pdf

Date and Time Comment Was Submitted: 2009-04-22 08:07:31

No Duplicates.

Comment 179 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mark
Last Name: Roberts
Email Address: mark@springboardbiodiesel.com
Affiliation:

Subject: Biodiesel Support
Comment:

I was thoroughly disappointed that the proposed CEC Investment Plan severely handicaps Biodiesel Initiatives. By allocating a mere 3.4% to biodiesel technologies, the CEC plan substantially reduces this State's ability to utilize a proven alternative resource that is vastly cleaner burning and potentially less expensive than petroleum (if you use yellow or brown grease as a feedstock, production costs are less than diesel #2) and works TODAY.

Waste to clean energy should be a priority. Reducing emissions today - not just in 10 years - will have tangible health, environmental and economic impact TODAY as well as in 10 years.

It is estimated that CA creates approximately 115MM gallons of yellow and brown grease every year. Turning this into biodiesel would reduce CO2 emissions by 1.5 billion pounds - the equivalent of removing 25,000 diesel cars from the State's roads.

This is a near term opportunity with a significant state-wide grassroots technology base already in existence. To squander it is shortsighted and detrimental to California's citizenry.

I strongly urge you to better fund biodiesel technology initiatives in this state.

Sincerely,

Mark Roberts
CEO
Springboard Biodiesel, LLC
2282 Ivy Street
Chico, CA 95928

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 08:28:05

No Duplicates.

Comment 180 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Cal
Last Name: Hodge
Email Address: a2ndopinioninc@aol.com
Affiliation: A2O, Inc. on behalf od Neste Oil

Subject: Comments on ILUC Mitigation & Minimization
Comment:

Clerk of the Board
Air Resource Board
1001 I Street
Sacramento, CA 95814
Electronic Submittal:
http://www.arb.ca.gov/lispub/comm/bclisy.php
CC via Email: aprabhu@arb.ca.gov, jcourtis@arb.ca.gov, dsimerot@arb.ca.gov
Comments on: Indirect Land Use Change
Thank you for the opportunity to comment on the Indirect Land Use Change (ILUC) issue. By now your are tired of all the comments stating that ILUC methodology is not mature enough for use in regulations. The European Union's actions indicate they think it is not ready. Etc. Etc. I may repeat some of those comments. But I will focus on mitigation and/or minimization of ILUC impacts. The Boards acceptance of the principles I will put forth is of great importance to the biomass-based energy industry, California and indeed, due to the Board's leadership role in pioneering advances in environmental quality, the World.
Mitigation of ILUC impacts is consistent with long-standing precedent established in the California Environmental Quality Act (CEQA) that allows mitigation in some reasonable way.
Minimization of ILUC impact is what we all want. Biofuel producers who are already minimizing ILUC impact should be able to benefit from their good works by being granted lower ILUC factors under Method 2B. The ILUC section of the LCFS must include language that provides “direct crediting” for the specific characteristics of fuels with feedstock production methods that already are inherently low carbon emitters.
Background
A 2nd Opinion, Inc. (A2O) is submitting these comments on behalf of its client, Neste Oil. A2O's President Cal Hodge has over 40 years experience in the fuels industry. He learned to make unleaded gasoline before it was required by law. He helped formulate Amoco's first unleaded regular gasoline. He has been involved with California fuel regulations since the early 1990's. He is proud to have been part of the team of regulators, fuel providers and auto makers that have reduced automotive pollution by 99% since the first Earth Day. He is excited to be working on the next generation of fuels that will reduce man's carbon footprint while making vehicles emit even less pollutants. Now let me tell you about my client.
Neste Oil Corporation is a refining and marketing company concentrating on low-emission, high-quality traffic fuels. The company's strategy is based on growing both its oil refining and premium-quality renewable diesel businesses. Neste Oil's refineries

are located in Porvoo and Naantali and have a combined crude oil refining capacity of approx. 260,000 barrels a day. The company had net sales of EUR 15 billion in 2008 and employs around 5,200 people. Neste Oil is listed on NASDAQ OMX Helsinki.

The Board's actions concerning the Low Carbon Fuel Standard (LCFS) and the ILUC issue are important to Neste because Neste's scientists have developed and commercialized a process to make renewable diesel fuel from the same biomass-based feedstocks as biodiesel (mono alkyl esters). Because it starts with the same biomass-based feedstocks it has about the same (actually slightly better due to differences in process efficiencies) full life cycle greenhouse gas (GHG) benefits as the esterification technology. But, by using hydrogen instead of an alcohol (typically methanol derived from fossil fuel) Neste's NExBTL process produces hydrocarbons that are suitable for use in all diesel engines at all concentrations. By controlling conversion conditions renewable diesel can be made with cold weather properties that are as good as or better than those of petroleum based diesel fuel from a wide range of vegetable oils and animal fats. Renewable diesel is fully compatible with petroleum based diesel fuel and can be used seamlessly throughout the existing blending, distribution and consumption infrastructure.

This is important to the Board because the fuel not only provides outstanding GHG benefits it also has an ultra high blending cetane and contains essentially no aromatics or sulfur. All three properties are key to making CARB Ultra Low Sulfur Diesel (CARB ULSD) and Texas Low Emissions Diesel (TxLED) burn more cleanly than their EPA ULSD counterpart. Neste's renewable diesel meets or exceeds the standards for all three ULSD's. When added to diesel fuel it lowers exhaust emissions, including NOx, which is a benefit California needs for ozone compliance.

After years of research and development, Neste , recognizing the environmental significance of the technology, started up the world first commercial scale (170,000 tonne/year(t/y), 57 million gallons per year(mmg/y)) in 2007 at their refinery in Porvoo, Finland. A second 170,000 t/y facility is scheduled to start up in 2009 in Porvoo. An 800,000 t/y plant is scheduled to be on line in Singapore in 2010 and another 800,000 t/y plant is due for startup in Rotterdam in 2011. It is A2O's opinion that Neste would like to announce a United States plant for startup in 2012.

General comments

As A2O participated in the LCFS regulatory process it became apparent that the methodology of calculating full life cycle energy and carbon balances, including direct land use changes is still evolving and that the methodology for calculating indirect land use changes is in its infancy. There will be changes in accepted methodology as we go forward and it is imperative that the Board create a very flexible regulation with frequent periodic reviews and economic protection for facilities that are in compliance with prevailing regulations when construction starts.

Based upon the changes I have observed during the regulatory process an annual review is needed during the early years as both the Life Cycle Analysis (LCA) and ILUC calculation methodologies evolve and stabilize. Reviews in 2010, 2011, 2013, 2015 and 2018 are reasonable. Of course the reviews themselves can recommend the next review period.

As for duration of economic protection, biofuels production and conversion equipment have long economic lives. Fifteen years from project conception or ten years from conversion plant startup are reasonable.

Pathway comments

As we compared the preliminary estimates of the carbon intensities

of fuels derived from soybeans we noticed that the co-product methodologies were inconsistent. Biodiesel received a fossil carbon credit for its co-product glycerin in the "Detailed California-Modified GREET Pathway for Biodiesel (Esterified Soyoil) from Midwest Soybeans" while renewable diesel did not receive a similar fossil credit for its co-product propane. This has been called to Staff's attention in another comment paper concerning the "Detailed California-GREET Pathway for Renewable Diesel from Midwest Soybeans". This was the first draft of the renewable diesel pathway that we have seen. We are confident that staff will resolve the inconsistency. But, the resolution will require one or both of the pathways to evolve. This is an example of why the Board needs to build frequent reviews and the flexibility to change into the regulation. That flexibility also needs to include grandfathering compliant facilities like the European Union did when they adopted a timetable for implementing ILUC calculations in December 2008. Their report can be found at:

http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+TA+20081217+SIT+DOC+WORD+V0//EN&language=EN

ILUC comments

The renewable diesel pathway was silent on ILUC. But the biodiesel pathway had a preliminary ILUC value for biodiesel of 42 gmCO2e/MJ. Because both biomass-based diesel fuels are produced from the same patch of land and crop, the impact on land use change should be the same for both fuels. Because of differences in fuel yields and properties, converting the same volume of soybeans to renewable diesel fuel produces 4% more energy than if biodiesel is produced. Because ILUC values are expressed in gmCO2e/MJ the higher energy yield per acre means the ILUC value for renewable diesel fuel should be 4% less than the value for biodiesel or 40 gmCO2e/MJ. The simple arithmetic of higher energy yield per acre causing a lower ILUC value suggests a mitigation strategy.

Mitigation via crop yield improvement

In the United States the average soy bean yield is about 40 bushels per acre and increasing at the rate of about 0.4 bushels per acre per year. The record yield was 139.4 in 2006 and 154.7 bushels per acre in 2007. (See Figure 1.)

The farmer that produced the record crops used the latest seed and crop management technology and had good soil. His yield is an example of what is possible. Now let us assume that the average soy bean farmer began to use advanced seed and land management technology. His soil probably will not let him produce at the record high levels but if he could get to 80 bushels per acre he will double the energy per acre yield, reduce the need to convert other land to crop land and reduce the effective ILUC values to 21 for biodiesel and 20 for renewable diesel. That sounds like something we want the LCFS to accomplish. We can make it happen if we build a mitigation feature into the system. Figure 2 illustrates how the ILUC value should decrease as soy bean yield increases.

Minimization Recognition

We should also reward credits for minimization of land use change impact to the early adopters, the environmental leaders who changed seed technology and/or land management practices to minimize both direct and indirect land use change impact because it was the right thing to do before the regulation was enacted. They should receive ILUC credits for the improvements they have made when they file a Method 2B pathway. Awarding those credits should be based upon the responses to three simple questions: 1. What was the yield? 2. What is the yield? 3. What did you do to increase the yield? Of course the regulation should also allow mitigation

credits for continued advancements in sustainability of the pathway.

Need way to estimate ILUC for new crops

Because the ILUC calculation methodology is so new, preliminary ILUC values are available for only four crops: cellulose, corn and sugar cane for ethanol and soy for biodiesel. If the biofuels industry and California are to be ready to comply with the LCFS we need an accepted methodology to estimate ILUC values for alternative crops for which there is no GTAP data. A reasonable methodology would assume that if an acre produces more energy, it should have a lower ILUC value. Figure 3 illustrates how the ILUC values for various oil crops would compare to the preliminary value for biodiesel from soy. While these numbers are not precise, they would be 4% less for renewable diesel.

Of course once an ILUC value has been determined for a crop, it should be able to be further mitigated by increasing the crop per acre yield by using advanced seed and crop management practices.

Other ILUC mitigation observations

At the March 27, 2009 LCFS Workshop, Dr. John Sheehan of the Institute on the Environment at the University of Minnesota made the presentation "Biofuels and land-use change A simpler approach to the problem". His presentation is based upon work he has done with Nathanael Green at NRDC to develop a simple, commonsense systems dynamics model to assess the carbon debt of biofuels when indirect land use change is included. While he is late to the party, (This is another example of how fast this methodology is evolving.) his observations and conclusions are pertinent to the Board's decisions concerning how to deal with the ILUC issue.

1. Some of the early publishers on ILUC assumed constant crop yields which tends to overstate carbon debt. If one assumes historical trends of increasing yields the carbon debt is much less.
2. "Permanent loss of farmland due to human-induced degradation is estimated to be 5-6 million ha per year."
3. "Addressing sustainable land management changes the picture"
4. "Land abandonment due to unsustainable farming is a (the?) critical problem"
5. We need to "Focus on incentivizing fuel providers who offer low land-use impact feedstocks or who couple their fuel production to strategies that lead to better land management globally and restoration of degraded lands"

Here are three thoughts the Board should consider:

1. The methodology of accounting for ILUC is evolving rapidly. Flexibility and review is essential.
2. What better way to incentivize fuel providers than to better manage land and restore degraded lands than to create mitigation procedures in the LCFS regulations?
3. Some people are already doing what is right. We need to reward, not penalize, biofuel providers that committed to responsible and sustainable production practices early.

Environmental leadership should not be penalized for leading

Neste Oil is fully committed to only using biofuel feedstocks that have been produced responsibly. It has a set of tough sustainability principles in place covering its procurement of bio-based raw materials. Thanks to the development of a system that enables it to trace the origin of all the biofuel feedstocks that it uses, it knows exactly where and how they have been produced. Neste Oil has committed itself to only using sustainable biofuel feedstocks.

Neste Oil is actively supporting work in the areas of legislation and certification designed to prevent the irresponsible production

of biofuels. The company has committed itself to an alliance calling for a ban on the felling of rainforest. It was the first oil company to play an active role in an organization dedicated to protecting rainforest.

"Our approach is very much to only use raw materials that are produced in line with the principles of sustainable development. We oppose the destruction of rainforest and anything that undermines human rights or natural biodiversity," said President & CEO Matti Lievonen, speaking at Neste Oil's Annual General Meeting in Helsinki on March 4, 2009.

"Neste Oil is working with over 20 research communities in Europe, America, Africa, Asia, and Australia to develop and introduce new raw materials. We increased our R&D budget last year by a third, to €37 million, and are devoting the bulk of our research efforts today to researching and identifying new types of renewable raw materials."

If regulators want to encourage companies to take such leadership roles, regulators must be careful when setting baseline performance goals or default values so as not to damage the innovators. When a company assumes a leadership role in doing what is right, it needs to be judged against its peers not itself.

Feasibility

One more comment. Large ILUC values threaten the feasibility of the LCFS. Without the ILUC debit it takes a 14% blend of soy-based biodiesel to satisfy the 2020 LCFS. Currently most diesel engine manufacturers are comfortable with a 5% blend. Some have accepted a 20% blend. But few are comfortable with the 36% blend that is needed in 2020 if the preliminary estimate of 42 gmCO2e/MJ ILUC impact survives the regulatory process.

For renewable diesel blends, recipes are not a problem because renewable diesel is acceptable at all blend levels. However, even though the feasible blend ratios are expected to be smaller than for biodiesel after staff resolves the inconsistencies we have found in the pathways and adjusts the preliminary ILUC impact to 40 gmCO2e/MJ, the global volume requirements may be hard to supply if other jurisdictions adopt similar low carbon fuel requirements.

Regulatory Certainty

Regulatory uncertainty will worsen the potential supply problem. Therefore, it is essential that the LCFS regulations assure capital recovery for projects that are compliant when concieved. Fifteen years from project conception or ten years from conversion plant startup are reasonable.

If you have questions you may contact Cal Hodge at A2ndOpinionInc@aol.com and/or Riitta Lempiainen at Riitta.Lempiainen@nesteoil.com .

Attachment: www.arb.ca.gov/lists/lcfs09/299-a2o_iluc_comments_on_behalf_of_neste_oil.docx

Original File Name: A2O ILUC comments on behalf of Neste Oil.docx

Date and Time Comment Was Submitted: 2009-04-22 08:35:54

No Duplicates.

Comment 181 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Valente
Email Address: info@sugarcaneblog.com
Affiliation: www.sugarcaneblog.com

Subject: Impact of Expanding Biofuel Production on GHG emissions
Comment:

Winrock International just published a white paper that synthesizes existing scientific data on greenhouse gas (GHG) emissions related to the production and expansion of biofuels. It is specifically focused towards assisting organizations that are developing sustainability standards for biofuels with the collection and interpretation of data.

The member of the Air Resources Board should read this paper -- and future papers that are forthcoming from Winrock -- and ensure that its findings are taken into consideration during the implementation of the Low Carbon Fuel Standard.

For instance, the paper points out that, “Sugarcane demonstrates particularly robust GHG savings through the use of bagasse as an energy source but potential still exists to improve boiler efficiency in many instances that would enable greater electricity production and export which would further improve GHG emissions.”

As various stakeholders have pointed out, CARB completely miss that in its GREET and GTAP modeling! For more info, see http://sugarcaneblog.wordpress.com/?s=LCFS

The Winrock paper is based on peer-reviewed data and published GHG calculation methodologies and is principally focused on currently commercial biofuel production from sugarcane, corn, soy, rapeseed, palm oil and on future feedstocks (lignocellulosic material); switchgrass, miscanthus, agricultural and woody residues and short rotation coppice.

The white paper illustrates that:

* Existing modeling approaches cannot yet effectively and robustly define the global GHG impact of expanding biofuel production.

* Studies with system boundaries that measure “well-to-wheel” GHG emissions can identify key contributing parameters within the biofuel supply chain. This approach can be used to develop appropriate guidelines to reduce GHG emissions.

* The well-to-wheel system boundaries as currently defined in many tools could provide future risks of double counting emissions or reductions e.g. emissions associated with fertilizer production counted in the chemical industry are also counted in the biofuel calculation.

* Reported well-to-wheel GHG emissions can vary according to methodological decisions, the use of different emission factors and uncertainties in data e.g. N2O emissions from soil.

* Well-to-wheel GHG emissions can also vary substantially on the basis of different cultivation practices and fuels used to process biofuel. It is not possible to classify biofuel as “good” or “bad” on the basis of the feedstock they are developed from alone.

* The uncertainty associated with N2O emissions from soil is significant and yet is a key component of the GHG emission profile of biofuels. Many tools being developed for sustainability standards rely on default IPCC calculations for N2O emissions. Detailed models for calculating emissions exist in the US and Europe.

* Emissions associated with fertilizer manufacture differ between different types and play a key role in the emissions associated with biofuel crop cultivation. Opportunities to substantially reduce these emissions for ammonium nitrate production through GHG pricing mechanisms exist and would positively impact the GHG balance for biofuel.

* Emissions associated with some types of land use change can negate GHG savings associated with biofuels and lead to long carbon payback times?.

* Co-product treatment method has a large impact on the GHG savings reported. There is no internationally agreed and consistent approach.

* Cultivation management practices to increase soil carbon sequestration and effective utilization of co-products can play a role in improving the GHG balance of biofuels, providing they are maintained long-term. Some emerging co-product markets (food grade CO2) and their GHG implications have not yet been addressed.

* The reported GHG savings for biofuels differ depending on the reference they are compared to. A fuel that demonstrated an 80% GHG saving against a high carbon intensity reference translates into greater savings calculated as gCO2eq/MJfuel than if the 80% GHG saving is related to a lower carbon intensity reference. If GHG benefits were monetized, this would result in different incentives depending on regional differences in the reference fuel.

* Incentives for GHG reduction ($/tCO2eq) are unlikely to represent a large proportion of net returns ($/ha) at $10/tCO2eq. In some cases such as sugarcane, the incentives may not be necessary to establish economically competitive biofuel markets; however land allocation decisions for advanced biofuel crops could be influenced by GHG incentives that reduce the breakeven returns (used as a proxy for land allocation decision). High yields per hectare and soil carbon sequestration rates are key and incentives greater than $10/tCO2eq are likely to be required for advanced biofuels.

Attachment: www.arb.ca.gov/lists/lcfs09/300-winrock_s_white_paper_on_ghg_implications_biofuel.pdf

Original File Name: Winrock_s_White_Paper_on_GHG_Implications_Biofuel.pdf

Date and Time Comment Was Submitted: 2009-04-22 08:52:02

No Duplicates.

Comment 182 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mark
Last Name: Luitjens
Email Address: luitjens@abe.midco.net
Affiliation:

Subject: American Made
Comment:

In this time of recesson we are seeing record unemployment. Decisions that the Air Resources Board will be making this week will have a profound effect on the future of ethanol. The feedstock for almost all ethanol used in the United States is corn - produced by United States farmers. This corn is then convereted to ethanol by United States workers. We are also involved in wars in many areas of the world - sacfificing the lives of our soldies every day - protecting our rights to satisfy our appetite for crude oil. These are only two of the many reasons to continue to use American made ethanol. Please consider all issues before making a decision. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 09:10:06

No Duplicates.

Comment 183 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Glenn
Last Name: Nader
Email Address: ganader@ucdavis.edu
Affiliation: University of California

Subject: Comment
Comment:

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Attached are my comments.  Glenn
```

Attachment: www.arb.ca.gov/lists/lcfs09/302-carb_nader_comments.doc

Original File Name: CARB Nader comments.doc

Date and Time Comment Was Submitted: 2009-04-22 09:15:11

No Duplicates.

Comment 184 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Sofia
Last Name: Sarabia
Email Address: ssarabia@crpe-ej.org
Affiliation: Center on Race, Poverty, & the Environme

Subject: Written Comments on LCFS
Comment:

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Please see attached written comments.
```

Attachment: www.arb.ca.gov/lists/lcfs09/303-lcfs.comments.pdf

Original File Name: LCFS.comments.pdf

Date and Time Comment Was Submitted: 2009-04-22 09:25:58

No Duplicates.

Comment 185 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Rick
Last Name: Hyndman
Email Address: hyndman@capp.ca
Affiliation: Canadian Assoc of Petroleum Producers

Subject: California Crude Basket
Comment:

```
Pleease see attached note
```

Attachment: www.arb.ca.gov/lists/lcfs09/304-capp_submission_on_draft_lcfs_regulation_apr_22_09.pdf

Original File Name: CAPP submission on Draft LCFS Regulation Apr 22 09.pdf

Date and Time Comment Was Submitted: 2009-04-22 09:32:22

No Duplicates.

Comment 186 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kumar
Last Name: Plocher
Email Address: kumar@ybiofuels.org
Affiliation: Yokayo Biofuels

Subject: LCFS
Comment:

I would like to voice my louud support for an accelerated implentation schedule for biodiesel as a component of the LCFS. My company, Yokayo Biofuels, has been selling exclusively ADVANCED BIOFUEL (in our case, biodiesel made from recycled sources) for over 5 years, and has been producing and distributing it ourselves for the past 3 1/2 years. We could desperately use the leg up that the LCFS offers, and we are BEYOND shovel-ready: we are on the ground, making it happen. Thank you!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 09:49:48

No Duplicates.

Comment 187 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mark
Last Name: Perlis
Email Address: hutterb@dicksteinshapiro.com
Affiliation: Counsel to Novozymes North America, Inc.

Subject: Comments of Novozymes North America, Inc. for Public Hearing, April 23, 2009
Comment:

```
Please find attached the Comments of Novozymes North America, Inc.
for Public Hearing, April 23, 2009 re Proposed Regulations to
Implement the Low Carbon Fuel Standard.
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Attachment: www.arb.ca.gov/lists/lcfs09/307-novozymes.pdf

Original File Name: Novozymes.pdf

Date and Time Comment Was Submitted: 2009-04-22 09:54:31

No Duplicates.

Comment 188 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Will
Last Name: Coleman
Email Address: wcoleman@mdv.com
Affiliation:

Subject: Investors Opposed To Selective Enforcement of Indirect Effects
Comment:

```
Please accept the following letter for the record from leading
advanced biofuel investors in California
```

Attachment: www.arb.ca.gov/lists/lcfs09/308-lcfs_investor_letter_final.pdf

Original File Name: LCFS_Investor Letter_final.pdf

Date and Time Comment Was Submitted: 2009-04-22 09:54:40

No Duplicates.

Comment 189 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: James
Last Name: Lyons
Email Address: jlyons@sierraresearch.com
Affiliation:

Subject: LCFS comments
Comment:

```
Please find comments attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/310-lcfs_letter.pdf

Original File Name: LCFS letter.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:11:45

No Duplicates.

Comment 190 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Naomi
Last Name: Kim
Email Address: naomik@envirorights.org
Affiliation: California Environmental Rights Alliance

Subject: EJAC - LCFS recs - final version attached
Comment:

See attached.

Attachment: www.arb.ca.gov/lists/lcfs09/311-ejac_lcfs_recs_-_4-21-09__2_.pdf

Original File Name: EJAC_LCFS_recs - 4-21-09 (2).pdf

Date and Time Comment Was Submitted: 2009-04-22 10:24:40

No Duplicates.

Comment 191 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jim
Last Name: Kenan
Email Address: kessner@octa.net
Affiliation:

Subject: OCTA Comments on the LCFS
Comment:

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Attached is the Orange County Transportation Authority comment
letter on the proposed low carbon fuel standard.
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Attachment: www.arb.ca.gov/lists/lcfs09/312-octa_lcfs_comment_letter_042209.pdf

Original File Name: OCTA LCFS Comment Letter 042209.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:34:51

No Duplicates.

Comment 192 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Patricia
Last Name: Monahan
Email Address: pmonahan@ucsusa.org
Affiliation: Union of Concerned Scientists

Subject: Strong Support for LCFS, But Proposed Biofuel Emissions Are Overly Conservative
Comment:

April 22, 2009

Mary Nichols, Chair
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95812

Subject: Strong Support for LCFS, But Proposed Biofuel Emissions Are Overly Conservative

Dear Chairman Nichols and members of the Board,

We appreciate the opportunity to comment on the proposed Low Carbon Fuel Standard (LCFS) regulation. UCS strongly supports California's pioneering effort to regulate lifecycle pollution from transportation fuels. The standard, which is a model for the country and other nations, will provide a mechanism for moving away from today's petroleum-based fuels towards tomorrow's cleaner, renewable, and more sustainable fuels. The LCFS provides an elegant, market-based structure to de-carbonize our fueling system.

We recommend strengthening certain aspects of the regulation, as articulated in the comment letter we submitted jointly with 35 other groups on April 15. The rule should be strengthened to prevent air quality backsliding, ensure ultra-low carbon fuels are used in California, protect sensitive lands, and promote sustainable fuels production.

We commend you and your staff for your groundbreaking work in the important area of lifecycle analysis, and particularly for grappling with the urgent and complex task of quantifying emissions associated with indirect land use changes (iLUC) induced by increased production of biofuels feedstocks. However, we find that staff's proposed carbon intensity values for biofuels may be too low for the following three reasons. First, the staff's proposed methodology to account for CO2-equivalent emissions (CO2e) over time undervalues the impact of biofuels that cause land use change. Second, the staff has adjusted the GTAP model variables to increase yields of biofuel feedstocks without increasing direct emissions from fertilizers and other inputs. Third, there is growing evidence that the direct emissions from fertilizer use may be higher than estimated in the LCFS.

We urge the Board to send a clear signal to conventional biofuel producers that the current carbon intensity values for biofuels

will likely be adjusted upward in the next review of the program. The following provides more detail on why the carbon intensity values for biofuels may be too low.

(consult attached document for remaining comments)

Attachment: www.arb.ca.gov/lists/lcfs09/313-ucs_comments_lcfs_april_22.09.pdf

Original File Name: UCS Comments_LCFS_April 22.09.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:42:54

No Duplicates.

Comment 193 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Richard
Last Name: Moskowitz
Email Address: rmoskowitz@trucking.org
Affiliation: American Trucking Associations

Subject: ATA Comments on the Proposed Low Carbon Fuel Std.
Comment:

```
See attached file, which represents the comments of the American
Trucking Associations on CARB's Proposed Regulation to Implement
the Low Carbon Fuel Standard.
```

Attachment: www.arb.ca.gov/lists/lcfs09/314-carb_lcfs_comments_042209.pdf

Original File Name: CARB LCFS comments 042209.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:45:56

No Duplicates.

Comment 194 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Jeff
Last Name: Broin
Email Address: jeff.broin@poet.com
Affiliation: CEO, POET

Subject: POET comments regarding adoption of the Low Carbon Fuel Standard
Comment:

```
Dear California Air Resources Board,

As you consider regulations for adopting the California Low Carbon
Fuel Standard, I respectfully ask that you review the attached
comments.  POET takes seriously its role in helping our nation
improve the environment, reduce dependence on foreign oil and
create good, green jobs here at home.

Sincerely,

Jeff Broin, CEO, POET
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Attachment: www.arb.ca.gov/lists/lcfs09/315-poet_statement_to_carb.pdf

Original File Name: POET statement to CARB.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:48:07

No Duplicates.

Comment 195 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Daniel
Last Name: Sinks
Email Address: h.daniel.sinks@conocophillips.com
Affiliation: ConocoPhillips

Subject: Low Carbon Fuel Standard Comments
Comment:

```
Attached please find our comments regarding the LCFS. The "zipped"
file contains 2 files in pdf format.  The first file is a cover
letter followed be an other file that contains detailed comments.

Please contact me if there are difficulties in up-loading the
files.
```

Attachment: www.arb.ca.gov/lists/lcfs09/316-conocophillips__lcfs__4_09__comments.zip

Original File Name: ConocoPhillips LCFS _4_09_ comments.zip

Date and Time Comment Was Submitted: 2009-04-22 10:49:09

No Duplicates.

Comment 196 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Richards
Email Address: rrichards@kernoil.com
Affiliation: Kern Oil & Refining Co.

Subject: Comments on Draft LCFS
Comment:

```
Clerk of the Board,

Please find attached a file containing Kern Oil & Refining Co.
comments to the draft LCFS.  The file contains four (4) pages
consisting of a cover letter and a three (3) page comment paper.

Please call me if there are any problems with the transmittal.

Robert Richards
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Attachment: www.arb.ca.gov/lists/lcfs09/317-kern_oil_lcfs_comments.pdf

Original File Name: Kern Oil LCFS Comments.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:53:54

No Duplicates.

Comment 197 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Aaron
Last Name: Gaines
Email Address: aaron.gaines@pigsrus.net
Affiliation: The Maschhoffs LLC

Subject: Comments on Low Carbon Fuel Standard
Comment:

```
Please see the attached comments.
```

Attachment: www.arb.ca.gov/lists/lcfs09/318-09_04_22_carb_letter_of_concern-gaines.pdf

Original File Name: 09_04_22 CARB LETTER OF CONCERN-GAINES.pdf

Date and Time Comment Was Submitted: 2009-04-22 10:56:30

No Duplicates.

Comment 198 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Emily
Last Name: Bateson
Email Address: ebateson@env-ne.org
Affiliation: Environment Northeast (ENE)

Subject: Support of LCFS including indirect land use change accounting
Comment:

```
The comments of Environment Northeast (ENE) in support of the
California LCFS are attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/319-environment_northeast_ca_lcfs_comments.doc

Original File Name: Environment_Northeast_CA_LCFS_Comments.doc

Date and Time Comment Was Submitted: 2009-04-22 10:59:45

No Duplicates.

Comment 199 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Christopher
Last Name: Draper
Email Address: cdraper@baybio.org
Affiliation: BayBio

Subject: Low Carbon Fuels Standard
Comment:

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Please see refer to the attached letter with comments from BayBio,
Northern California's life sciences industry association.
```

Attachment: www.arb.ca.gov/lists/lcfs09/320-4_22_09_carb_comments_on_iluc_standards.pdf

Original File Name: 4 22 09 CARB Comments on ILUC standards.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:01:17

No Duplicates.

Comment 200 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Patricia
Last Name: Monahan
Email Address: pmonahan@ucsusa.org
Affiliation: Union of Concerned Scientists

Subject: Updated Scientist Letter: 179 Scientists Urge CARB to Include iLUC for Biofuels
Comment:

```
Attached is a letter by 179 scientists urging CARB to include land
use change emissions from biofuels, as well as other major emission
sources, in the LCFS. The letter is unchanged from the version
submitted on April 21, 2009, but the number of signatories has
increased from 177 to 179.
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Attachment: www.arb.ca.gov/lists/lcfs09/321-179_scientists__biofuels_and_land_use_change.pdf

Original File Name: 179 Scientists, Biofuels and Land Use Change.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:07:19

No Duplicates.

Comment 201 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Keith
Last Name: Kline
Email Address: klkline@yahoo.com
Affiliation:

Subject: ILUC considerations in LCFS09
Comment:

April 22, 2009

California Air Resources Board
Headquarters Building
Sacramento, CA 95812

REF: Significant uncertainty surrounds Indirect Land-Use Change (ILUC) estimates; therefore ILUC factors should be excluded until better data and documentation are available and scientifically peer-reviewed

Dear Board Members:

We applaud your pioneering efforts to establish a LCFS and support your initiatives to reduce emissions and improve welfare for present and future citizens.

We are writing to recommend that CARB reconsider the proposal to include indirect carbon emissions from land-use change (or Indirect Land-Use Change – ILUC – factors) in the Low Carbon Fuel Standard (LCFS) rule. A delay in adopting the ILUC component of the proposal for GHG emission calculation is warranted because current ILUC emission factors are theoretical estimates rather than science-based calculations and inclusion runs the risk of undermining a very important initiative.

The ILUC estimates carry significant uncertainty because they are based on: (a) a model that was never validated or calibrated for the purpose of estimating land-use change; (b) input data for land use with degrees of uncertainty much larger in magnitude than the changes modeled, casting considerable doubt on the validity of results; (c) one set of modeling results when the same model produced wide-ranging results for indirect land-use change in response to minor adjustments in assumptions and inputs (and there is ongoing debate surrounding the accuracy and validity of many of those assumptions, factors and inputs) as documented in the papers published on the GTAP website and for CARB in the past 24 months; and (d) a hypothesis for indirect land-use change that does not meet the “rules of reason” tests established in US courts for indirect environmental impacts, exposing the LCFS rule to potentially serious implementation obstacles that could be avoided if the ILUC component were postponed until better data and analytical tools are developed.

Our examination of the land use and economic models show that there is not currently any accepted approach for calculating

indirect land-use change impacts from U.S. biofuel production and policy. Mr. Oladosu (co-author of this comment letter) is an economist who has worked with the GTAP and other global equilibrium models. GTAP has not been calibrated or validated for making land-use change estimates. The GTAP modeling assumptions used to estimate ILUC do not come close to reflecting the conditions and forces that prevail in the areas where impacts are estimated to occur. Baseline land-cover and land-use data and other underlying assumptions for the modeling carry huge uncertainties, yet these uncertain inputs determine the results. The sensitivity of results is illustrated in part by the wide range of ILUC results reported among the GTAP reports issued on this topic in 2008 and 2009.

Several US Court decisions have considered if and when indirect environmental impacts need to be incorporated under proposed government projects. The decisions can be assembled under “rules of reason” that help determine when indirect impacts should be incorporated. The basic question is, “Are the impacts (indirect land use change effects, in this case) reasonably certain to occur as a result of proposed action, or is the estimate (of ILUC) based on speculation?” There is a lack of consensus on this issue in the scientific community. But, several considerations from past court cases may help answer the “rule of reason” question:

(a) Are estimated ILUC impacts speculative within the context of all the other events, circumstances and contingencies that exist to enable the effect (e.g. deforestation)?
(b) Is the impact (loss of natural habitat/deforestation) inevitable, independent of the proposed action and the theorized indirect impacts?
(c) Does the “precautionary principle” clearly favor one proposed action over another? (e.g. What are the impacts on land use change and deforestation if less biofuels are accepted under LCFS due to the assumed ILUC factors?)
(d) Is the estimated impact increasingly tenuous as inquiry extends outward from the core project area?
(e) If there is a “reasonably foreseeable” indirect impact, does it occur in a remote locale that is not under direct U.S. control?
(f) What is the “legally relevant cause” of the impact? (Is the ILUC impact isolated from the proposed action?)

When a reasonable person asks these questions, can it be concluded that the estimated indirect impacts are caused by the proposed action? In the case of the California LCFS, rather than include ILUC factors at this time as proposed, we recommend that a more prudent approach would be to identify these as possible indirect impacts and recommend mitigations to limit the likelihood of negative effects. Such mitigations could include adherence to sustainable production standards that are developed and monitored by third parties.

Keith Kline (co-author of this comment letter) has spent over twenty years, the majority of his professional career, working on international programs to protect biodiversity, promote sustainable development and reduce deforestation. In that capacity, Mr. Kline witnessed tremendous land conversion impacts, direct and indirect, of oil and gas exploration activities in developing nations. These are driven by world demand for petroleum products but are overlooked in the proposed CARB rule. Such resource extraction activities may very well be among the most significant factors contributing to the accelerated loss of natural habitat in the remaining forest zones of our planet.

We have also witnessed “market-mediated” impacts in forest frontier zones of developing nations and found that improved prices and expanded market options for products, as expected under biofuel policies, reduce pressures for deforestation and provide tools and incentives to promote more sustainable land use.

In sum, the market-mediated land-use change impacts hypothesized by GTAP and similar economic models are not merely inaccurate estimates; they may indeed be the opposite to what could be expected in the real world, particularly when one looks at first time forest conversion and biofuel production backed by incentives for sustainable production, environmental legislation and enforcement. More research is needed to better understand the interactions among these factors, going beyond theories, to calibrate and validate models that reflect how behavior is impacted, and to better quantify the degree and direction of impacts from biofuels.

Sincerely,

Keith Kline and
Gbadebo Oladosu

Attachment: www.arb.ca.gov/lists/lcfs09/322-kline_oladosu_letter_iluc_considerations_april_22.docx

Original File Name: Kline Oladosu letter ILUC considerations April 22.docx

Date and Time Comment Was Submitted: 2009-04-22 11:13:25

No Duplicates.

Comment 202 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Robert
Last Name: Winnson
Email Address: bobwinnson@gmail.com
Affiliation:

Subject: LCFS09: Following the Green for Carbon Dioxide
Comment:

Dear Clerk of the Board:

Please replace the recently sent comment with this text comment (an edit on the comment was needed). -Thank you.

April 21, 2009

Mary D. Nichols, Chairwoman
California Air Resources Board
c/o Clerk of the Board
1001 I Street
Sacramento, California 95814
Electronic submittal:
http://www.arb.ca.gov/lispub/comm/bclist.php

Dear Chairwoman Mary Nichols:

Many congratulations on your and other board members' tireless efforts in establishing what will become an LCFS framework for many states, and perhaps the nation. In particular, it is intriguing that ARB has been able to select a couple of scientific studies for the indirect land use change (iLUC) of biofuels, particularly when the majority of uninvolved knowledgeable scientists agree that this topic is very early in its development, the science cannot be backtested, and that is has to be based on assumptions. By choosing those that have the most damaging outcome for biofuels, you have certainly made many of those vocal in the environmental arena very pleased. It is especially interesting that you have been able to select indirect effects for certain biofuels alone, and have left off those for other fuels. Of particular interest is that while at least half of California's petroleum comes from other regions such as the Middle East and Colombia, and in the future will increasingly rely on carbon intense (and other extreme environmental damages) tar sands and oil shale, you have been able to establish the LCFS for gasoline as merely that domestic to California.

The LCFS iLUC values for biofuels results directly from assumptive computer modeling done by Timothy Searchinger of Environmental Defense, and Joseph Fargione of the Nature Conservancy. Environmental Defense receives funding from W.K. Kellogg Foundation (the Kellogg's that is part of the Grocery Manufacturers Association which funded an aggressive anti-corn ethanol PR campaign starting in early 2008). Kellogg also provides funding to

the Nature Conservancy and to the Rockefeller Family Fund (obvious connections to ExxonMobile). The Rockefeller Family Fund provides funding to the Environmental Working Group, which has been consistently negative to corn ethanol and large corn farms in general. Another source of funding is the Joyce Foundation, which provides funding to the Union of Concerned Scientists (who have submitted their comments and 177 scientists letter to ARB in favor of biofuels' iLUC outcome), the Nature Conservancy, and the Environmental Working Group.

Joseph Fargione (Nature Conservancy) is tied into Searchinger's work through Environmental Defense, both funded by W.K. Kellogg. The Washington Post on May 4, 2003 published an investigative report on the Conservancy. Though it had its purposeful upstart decades early, the Conservancy had greatly expanded to the point that it had officials with large polluting corporations on its board, who would use it for positive PR about their environmental projects. It was revealed that ExxonMobile and BP hold leadership counsel seats on the Conservancy, donating $5 million. Philips Alaska, a supporter of drilling in ANWR, donated $1 million. Regarding land use change, the Conservancy forged a partnership with Centex Homes, which up to 2003 had built 400,000 homes in urban sprawl (Centex had given and pledged $3 million to the conservancy). Also allied with the Conservancy are International Paper and Georgia-Pacific ($3 million given), logging companies. The logo of the Conservancy was used on General Mills' products, which held a seat on the board of the Conservancy and is a member of the Grocery Manufacturers Association.

The information is available at:

http://pqasb.pqarchiver.com/washingtonpost/access/332205031.html?dids=332205031:332205031&FMT=ABS&FMTS=ABS:FT&fmac=&date=May+4%2C+2003&author=&desc=TODAY+++Inside+the+Nature+Con+...

http://www.wildlifeprotection.net/everything/NatureConservency.html

http://www.discoverthenetworks.org/groupProfile.asp?grpid=6940

Sitting on today's board of the Conservancy is Stephen Polasky, who in early 2009 followed up with a study determining that corn ethanol also would release as much or more CO2 emissions as gasoline.

http://www.greenbiz.com/news/2009/02/06/corn-ethanol

http://www.nature.org/aboutus/leadership/art15462.html

Regardless of their stance on corn ethanol, the absurdity of GM having their Senior Advisor and former Corporate Vice President on the Conservancy Board seems to further decrease its integrity, pointing out that still today it is not the environmentally-focused, corporation-disconnected group from its early days.

Also serving on the Conservancy board is former under secretary of state for global affairs and climate change, Frank Loy. He also serves on the board of Environmental Defense. A third board he sits on is the Pew Center for Global Climate Change, which is funded by Sun Oil/Sunoco, and now also includes BP and Shell. Together, the Pew Center and Environmental Defense formed the

Partnership for Climate Action (PCA). A strong endorser of market-based mechanisms to reduce carbon dioxide emissions, the individuals and companies of PCA plan to benefit handsomely from the profits. There are some other big partners in PCA now—Carlyle Group, Berkshire Partners, Morgan Stanley, the CEO of Carbon Investments, and Goldman Sachs. The latter invested in photovoltaics with Sun Edison, acquired Horizon Wind Energy, and purchased a stake in Iogen Corp., a cellulosic ethanol company that would likely benefit from a higher corn ethanol iLUC and LCFS value, and Goldman Sachs has touted itself to become "the market maker in CO2 emissions trading." On the Conservancy board sits Maneer Satter, Managing Director at Goldman Sachs.

This information is found here:

http://www.globalresearch.ca/index.php?context=va&aid=5568

This ties investment banks, food companies, and oil companies to the researchers that ARB is basing its iLUC and LCFS values for corn ethanol and other biofuels upon. Daniel Sperling, ARB voting member, published his "Low Carbon Fuels Standards" in the Winter 2009 issue of Science and Technology. ARB has also linked his papers on their website. His article, which is highly critical of corn ethanol, references Timothy Searchinger as one of three sources of information. Indeed, Daniel Sperling has a long relationship with the oil and automobile companies, and his Institute of Transportation Studies at UC Davis receives million of dollars from these same companies, also including Chevron and ExxonMobile.

This information is found here:

http://articles.latimes.com/2008/apr/11/business/fi-airboard11

There are numerous other seeming conflicts of interest that exist with voting members, going straight to the top, at ARB and CEC that I will not detail, as they involve marriage relationships (spouses employed by large oil companies and lobby firms) and very significant personal financial stakes in oil companies. These have been reported in the mainstream press should anyone be interested.

The issue at hand is that corn ethanol and soybean biodiesel are not easily controlled financially by these large fuel companies. Hydrogen, electricity, natural gas, etc. seemingly would be. Also, the investment banks and food companies have a vested interest in decreasing the use of corn ethanol and controlling the carbon trading market.

You see how this presents a problem, when the only indirect effects that ARB is considering at this point are those of these biofuels. I strongly encourage you to include direct effects, but only when all can be scientifically (not assumptions and worst case computer models that can't be backtested) agreed upon by the majority of uninvolved scientists. ARB is not at that point, and would be allowing itself to be an instrument of the above conflicts were it to continue with the absurdity of the current iLUC and LCFS values of these biofuels alone.

Respectfully,

Bob Winnson

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 11:19:32

No Duplicates.

Comment 203 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joseph
Last Name: Suchecki
Email Address: jsuchecki@emamail.org
Affiliation: Engine Manufacturers Association

Subject: EMA Comments on Low Carbon Fuel Standard
Comment:

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Attached are the comments of the Engine Manufacturers Association
on the proposed adoption of the Low Carbon Fuel Standard by the AIr
Resources Board.
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Attachment: www.arb.ca.gov/lists/lcfs09/325-emadocs-_35239-v2-ema_low_carbon_fuel_standards_comments.pdf

Original File Name: EMADOCS-#35239-v2-EMA_Low_Carbon_Fuel_Standards_Comments.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:19:43

No Duplicates.

Comment 204 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Tom
Last Name: Buis
Email Address: tbuis@growthenergy.org
Affiliation: CEO, Growth Energy

Subject: Growth Energy Comments
Comment:

Dear California Air Resources Board,

As you consider adoption of a regulation to implement the Low Carbon Fuel Standard, Growth Energy respectfully requests that you review the attached submission. Growth Energy is committed to the promise of agriculture and growing America's economy through cleaner, greener energy. Growth Energy promotes reducing greenhouse gas emissions, expanding the use of ethanol in gasoline, decreasing our dependence on foreign oil, and creating American jobs at home.

Sincerely,

Tom Buis
CEO
Growth Energy

Attachment: www.arb.ca.gov/lists/lcfs09/326-growth_energy_carb_letter_04_22_09.pdf

Original File Name: Growth Energy CARB letter 04 22 09.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:23:39

No Duplicates.

Comment 205 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: John
Last Name: Braeutigam
Email Address: john.braeutigam@valero.com
Affiliation: Valero

Subject: Valero Comments LCFS
Comment:

```
Please see attached file.
```

Attachment: www.arb.ca.gov/lists/lcfs09/327-valero_lcfs_comments_04_22_09.pdf

Original File Name: Valero LCFS Comments 04 22 09.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:25:31

No Duplicates.

Comment 206 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Nadia
Last Name: Scipio del Campo
Email Address: nadia.scipiodelcampo@international.gc.ca
Affiliation:

Subject: Government of Canada Comments on LCFS
Comment:

```
Please find attached two letters from the Government of Canada
regarding the LCFS regulation:
1. Cover letter from Ambassador to Canada Michael Wilson to
Governor Schwarzenegger April 22, 2009
2. Letter from Minister of Natural Resources Canada Lisa Raitt to
Governor Schwarzenegger April 21, 2009
```

Attachment: www.arb.ca.gov/lists/lcfs09/328-government_of_canada_comments_on_lcfs_april_22_2009.zip

Original File Name: Government of Canada comments on LCFS April 22 2009.zip

Date and Time Comment Was Submitted: 2009-04-22 11:28:56

No Duplicates.

Comment 207 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: William
Last Name: Barrett
Email Address: wbarrett@alac.org
Affiliation: American Lung Association in California

Subject: 101 Health Professionals in Support of LCFS
Comment:

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Please find the attached petition signed by 101 health care
professionals in support of the Low Carbon Fuel Standard.
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Attachment: www.arb.ca.gov/lists/lcfs09/329-101_health_professionals_in_support_of_the_lcfs.pdf

Original File Name: 101 Health Professionals in Support of the LCFS.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:29:00

No Duplicates.

Comment 208 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Ryan
Last Name: Harty
Email Address: rharty@hra.com
Affiliation: Honda R&D Americas, Inc

Subject: LCFS Comment - Electricity Report, Vehicle EERs, and Fuel Economy Measurements
Comment:

```
Thank you for the opportunity to comment on the LCFS. This is an
important piece of California's GHG reduction strategy, and we
value the opportunity to give our feedback. Please find attached
comments and explanations from Honda R&D Americas, Inc.

Thank you very much,

Ryan Harty
Honda R&D Americas, Inc
1900 Harpers Way,
Torrance, CA
90501
rharty@hra.com
```

Attachment: www.arb.ca.gov/lists/lcfs09/330-lcfs_comments_090422_-_honda_r_d_americas_inc.pdf

Original File Name: LCFS Comments 090422 - Honda R&D Americas Inc.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:34:25

No Duplicates.

Comment 209 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Virginia
Last Name: Dale
Email Address: vdale212@comcast.net
Affiliation:

Subject: Great uncertainty surrounds Indirect Land-Use Change (ILUC) estimates; therefore ILUC fact
Comment:

April 22, 2009

California Air Resources Board
Headquarters Building
Sacramento, CA 95812

REF: Great uncertainty surrounds Indirect Land-Use Change (ILUC) estimates; therefore ILUC factors should be excluded until better data and documentation are available and scientifically peer-reviewed

Dear Board Members:

I am writing to recommend that CARB reconsider the proposal to include indirect carbon emissions from land-use change (or Indirect Land-Use Change – ILUC – factors) in the Low Carbon Fuel Standard (LCFS) rule. A delay in adopting the ILUC component of the proposal for GHG emission calculation is warranted because current ILUC emission factors are theoretical estimates rather than science-based calculations.

The ILUC implications of the LCFS are largely based on a global equilibrium model that is not capable of assessing impacts on indirect land use. Instead, natural resource extraction activities may very well be among the most significant factors contributing to the accelerated loss of natural habitat in the remaining forest zones of our planet. Based on my field work in the Brazilian Amazon, Panama, Guatemala and personal research in south and southeast Asia as well of review of numerous scientific studies, it seems that land-use change in developing countries is a combination of cultural, environmental, social, economic, political, and technological factors. Global market conditions often have a quite limited influence. In contrast to the model predictions, numerous studies suggest that improved prices and expanded market options for products, as expected under biofuel policies, reduce pressures for deforestation and provide tools and incentives to promote more sustainable land use.

The ILUC estimates carry significant uncertainty because they are based on: (a) a model that was never validated or calibrated for the purpose of estimating land-use change; (b) input data for land use with degrees of uncertainty much larger in magnitude than the changes modeled, casting considerable doubt on the validity of results; (c) one set of modeling results when the same model produced wide-ranging results for indirect land-use change in

response to minor adjustments in assumptions and inputs (and there is ongoing debate surrounding the accuracy and validity of many of those assumptions, factors and inputs) as documented in the papers published on the GTAP website and for CARB in the past 24 months; and (d) a hypothesis for indirect land-use change that does not meet the “rules of reason” tests established in US courts for indirect environmental impacts, exposing the LCFS rule to potentially serious implementation obstacles that could be avoided if the ILUC component were postponed until better data and analytical tools are developed.

Examination of the land use and economic models show that there is not currently any accepted approach for calculating indirect land-use change impacts from U.S. biofuel production and policy. GTAP has not been calibrated or validated for making land-use change estimates. The GTAP modeling assumptions used to estimate ILUC do not come close to reflecting the conditions and forces that prevail in the areas where impacts are estimated to occur. Baseline land-cover and land-use data and other underlying assumptions for the modeling carry huge uncertainties, yet these uncertain inputs determine the results. The sensitivity of results is illustrated in part by the wide range of ILUC results reported among the GTAP reports issued on this topic in 2008 and 2009.

Several US Court decisions have considered if and when indirect environmental impacts need to be incorporated under proposed government projects. The decisions can be assembled under “rules of reason” that help determine when indirect impacts should be incorporated. The basic question is, “Are the impacts (indirect land use change effects, in this case) reasonably certain to occur as a result of proposed action, or is the estimate (of ILUC) based on speculation?” There is a lack of consensus on this issue in the scientific community. But, several considerations from past court cases may help answer the “rule of reason” question:

(a) Are estimated ILUC impacts speculative within the context of all the other events, circumstances and contingencies that exist to enable the effect (e.g. deforestation)?
(b) Is the impact (loss of natural habitat/deforestation) inevitable, independent of the proposed action and the theorized indirect impacts?
(c) Does the “precautionary principle” clearly favor one proposed action over another? (e.g. What are the impacts on land-use change and deforestation if less biofuels are accepted under LCFS due to the assumed ILUC factors?)
(d) Is the estimated impact increasingly tenuous as inquiry extends outward from the core project area?
(e) If there is a “reasonably foreseeable” indirect impact, does it occur in a remote locale that is not under direct U.S. control?
(f) What is the “legally relevant cause” of the impact? (Is the ILUC impact isolated from the proposed action?)

Thus it cannot be concluded that the estimated indirect impacts are caused by the proposed action. In the case of the California LCFS, rather than include ILUC factors at this time as proposed, we recommend that a more prudent approach would be to identify these as possible indirect impacts and recommend mitigations to limit the likelihood of negative effects. Such mitigations could include adherence to sustainable production standards that are developed and monitored by third parties.

I applaud your pioneering efforts to establish a LCFS and support

your initiatives to reduce emissions and improve welfare for present and future citizens. However the market-mediated land-use impacts hypothesized by GTAP and similar economic models are not merely inaccurate; they may indeed be estimating impacts that are opposite to what could be expected in the real world, particularly when biofuel production is backed by incentives for sustainable production, environmental legislation and enforcement. Much more work is needed to better understand the interactions among these factors, going beyond theories, to calibrate and validate models that reflect how behavior is impacted, and to better quantify the degree and direction of impacts from biofuels.

Sincerely,

Virginia H. Dale, PhD
212 Whippoorwill Drive
Oak Ridge TN, 37830

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 11:37:55

No Duplicates.

Comment 210 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Patty
Last Name: Senecal
Email Address: psenecal@transportmail.com
Affiliation:

Subject: IWLA Comments on LCFS
Comment:

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Please see posted comments from the International Warehouse
Logistics Association (IWLA)regarding LCFS.
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Attachment: www.arb.ca.gov/lists/lcfs09/332-iwla_carb_filing_042209.pdf

Original File Name: IWLA CARB Filing 042209.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:42:57

No Duplicates.

Comment 211 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Steve
Last Name: Shaffer
Email Address: steven.shaffer@sbcglobal.net
Affiliation:

Subject: LCFS - biofuels
Comment:

It is clear from the record that CARB staff has been selective in its use of available data to determine corn ethanol coproduct credit values. CARB staff should redo this evaluation, relying upon the most recent data available and local animal nutrition scientists at the University of California, and the California State Universities, and the CA Department of Food and Agriculture.

It is also clear from the record that there is tremendous uncertainty, not only in the magnitude, but also in the direction of market mediated, or indirect land use change effects. No alternate scenario analysis using GTAP (or any other eceonomic model) has been run by CARB staff and their supporting consultants at UC or Purdue using alternate land use assumptions such as those presented by Kline, et al at Oak Ridge National Laboratory. Nor has this theory been validated using real world on-the-ground data. An equally plausible assumption is that available underutilized agricultural land will be used to meet expanding food, feed, fiber and energy demand, rather than the assumption that ANY new demand (biofuel or otherwise) will be met by converting forest or perennial grasslands into new agricultural land. I respectfully request that this issue be analyzed during the next two years under the direction of the National Academies of Science.

Finally, CARB staff should be commended for its use and on-going refinement of the GREET model to quantify direct impacts. A LCFS regulation based on direct impacts as quantified by the CA GREET model should be implemented starting in 2010.

It is a shame that the coproducts credit analysis and the ILUC portion of the regulation have not been affored the same rigor. The fact that they haven't reflects poorly on the credibility of the entire regulation.

Respectfully,
Steve Shaffer

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 11:44:16

No Duplicates.

Comment 212 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Michael
Last Name: McAdams
Email Address: mmcadams@bhfs.com
Affiliation: Advanced Biofuels Association

Subject: ABFA Comments
Comment:

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Please see attached for the comments of the Advanced Biofuels
Association.
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Attachment: www.arb.ca.gov/lists/lcfs09/335-abfa_comments_04.22.09.pdf

Original File Name: ABFA Comments 04.22.09.PDF

Date and Time Comment Was Submitted: 2009-04-22 11:45:28

No Duplicates.

Comment 213 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Tom Frantz
Last Name: John Shears
Email Address: tfrantz@bak.rr.com & shears@ceert.org
Affiliation: CVAQ Energy Committee

Subject: Support for the LCFS
Comment:

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This letter is in support of the LCFS, with noted concerns about
ensuring that the implementation of this policy effectively
addresses the concerns of valley residents.
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Attachment: www.arb.ca.gov/lists/lcfs09/336-cvaq_e_cttee_lcfs_04.22.09.pdf

Original File Name: CVAQ E Cttee LCFS 04.22.09.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:45:35

No Duplicates.

Comment 214 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Eric
Last Name: Smith
Email Address: esmith@greendepot.org
Affiliation: Director, Green Depot San Francisco

Subject: Urging an accelerated schedule and fuel pathways for biodiesel from waste.
Comment:

Staff,
I am writing to support the position of the California Biodiesel Alliance, which is to urge adoption of the Low Carbon Fuel Standard with an accelerated implementation schedule for the diesel fuel pool that more aggressively decreases carbon intensity beginning in 2010. California's biodiesel industry, which produces the majority of its fuel from waste sources, can be a model for practices that lower green house gases dramatically and should be given every opportunity to succeed.

California’s 2009 biodiesel production capacity is more than capable of meeting the demands of a 1% reduction in carbon intensity beginning in January 2010. A 1% reduction could be achieved with 31 to 35 mgpy of California produced biodiesel made from waste feedstocks such as animal fats and used cooking oils (the latter is based on an LCFS pathway for biodiesel produced in California using inedible animal fats and used cooking oils achieving a 70% and 80% reduction respectively in carbon intensity versus the current petroleum diesel baseline of 94.71 gCO2e/MJ).

I also write to urge ARB to develop and publish LCFS fuel pathways for biodiesel produced in California and for biodiesel using waste feedstocks such as used cooking oil and inedible animal fats. Thank you for your consideration.

Eric Smith, Director
Green Depot San Francisco

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 11:46:35

No Duplicates.

Comment 215 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Mark
Last Name: Cole
Email Address: mcole@us-dev.com
Affiliation: US Development Group LLC

Subject: Low Carbon Fuel Standard
Comment:

On Thursday, please vote against the California Air Resources Board proposed rule limiting the carbon content of transportation fuels. The proposed rule is overreaching and will have the unintended consequence of propping up the status quo of our country's continued reliance on fossil fuels.

Among other adverse effects, the proposed rule would discourage investment in the biofuels industry and would therefore limit the growth of biofuels as a viable alternative to oil. Moreover, this would happen at the precise time when the critically needed transition to the next generation of cleaner fuels is gaining momentum.

In particular, including the indirect effect of land use in determing the carbon content of a fuel is especially problematic. Not only is the scientific community not in agreement on how to measure and value such a figure, to apply the land use analysis to biofuels alone is intellectually inconsistent and unfair, if not unconstitutional.

Obviously all energy production – from fossil fuels to green power sources like solar and wind – has land use consequences. But without an established scientific consensus as to how to quantify the effects of land use for energy production, this step should not be taken.

Everyone recognizes the need for cleaner air. But punishing and discouraging biofuels is not the path to a greener future, but rather, a vote for the status quo addiction to domestic and imported fossil fuels.

Best Regards,

Mark Cole
General Counsel
US Development Group LLC

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 11:52:38

No Duplicates.

Comment 216 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: V. John
Last Name: White
Email Address: marilyn@cleanpower.org
Affiliation: Clean Power Campaign

Subject: California Low Carbon Fuel Standard
Comment:

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Comments of the Clean Power Campaign in support of the Low Carbon
Fuel Standard
```

Attachment: www.arb.ca.gov/lists/lcfs09/339-ceert_renewable_energy_affiliates_lcfs_final_04_14_09_17h25__3_.doc

Original File Name: CEERT renewable_energy_affiliates_LCFS Final_04 14 09 17h25 (3).doc

Date and Time Comment Was Submitted: 2009-04-22 11:53:05

No Duplicates.

Comment 217 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Stephanie
Last Name: Batchelor
Email Address: sbatchelor@bio.org
Affiliation: Biotechnology Industry Organization

Subject: BIO public comments for CARB board
Comment:

```
Thank you for accepting our comments on your proposed low carbon
fuel standard regulation.  Please let us know when you receive this
email.
```

Attachment: www.arb.ca.gov/lists/lcfs09/340-new_compressed__zipped__folder.zip

Original File Name: New Compressed (zipped) Folder.zip

Date and Time Comment Was Submitted: 2009-04-22 11:54:23

No Duplicates.

Comment 218 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: william
Last Name: wason
Email Address: willy_wason@yahoo.com
Affiliation: co2 star

Subject: comment on LCFS
Comment:

```
comments attached in file
```

Attachment: www.arb.ca.gov/lists/lcfs09/341-co2_star_carb_testimony__2e.doc

Original File Name: Co2 Star CARB testimony #2E.doc

Date and Time Comment Was Submitted: 2009-04-22 11:54:55

No Duplicates.

Comment 219 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Rick
Last Name: Longobart
Email Address: rlongobart@cityofinglewood.org
Affiliation: City of Inglewood, Ca

Subject: Support of Biofuel B20
Comment:

The City of Inglewood California and the CBA urges the ARB to adopt the LCFS.

Implementation Timeline.
• We agree with concerns voiced by other groups such as the Union of Concerned Scientists that much more needs to be done to reduce GHG/carbon emissions in the early years of LCFS - a unit of carbon/GHG reduction today is worth more than a comparable reduction in the future.
• Revise the implementation timeline for the diesel fuel pool to include more aggressive decreases in carbon intensity beginning in 2010.
• 1% reduction could be achieved with 31 to 35 mgpy of California produced biodiesel made from waste feedstocks such as animal fats and used cooking oils (the latter is based on an LCFS pathway for biodiesel produced in California using inedible animal fats and used cooking oils achieving a 70% and 80% reduction respectively in carbon intensity versus the current petroleum diesel baseline of 94.71 gCO2e/MJ).
• California has nine biodiesel plants either currently operating or engaged in commissioning with a combined production capacity of approximately 63 million gallons per year; another 4 plants are idle and at least one other is under construction. Thus, California's 2009 biodiesel production capacity is more than capable of meeting the demands of a 1% reduction in carbon intensity beginning January 2010.

Fuel Pathways
CBA urges ARB to develop and publish LCFS fuel pathways for biodiesel produced in California and for biodiesel using waste feedstocks such as used cooking oil and inedible animal fats.

Rick Longbart
City of Inglewood

Attachment: www.arb.ca.gov/lists/lcfs09/342-letter_of_support_of_b20_04-22-09_revised.pdf

Original File Name: Letter of support of B20 04-22-09 revised.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:56:29

No Duplicates.

Comment 220 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Norman
Last Name: Pedersen
Email Address: npedersen@hanmor.com
Affiliation: Southern California Public Power Author

Subject: SCPPA Comment in Support of LCFS Proposed Regulation
Comment:

```
Please find attached the Southern California Public Power Authority
Comment in Support of the Proposed Low Carbon Fuel Standard
Regulation.
```

Attachment: www.arb.ca.gov/lists/lcfs09/343-300226001nap04220901.doc

Original File Name: 300226001nap04220901.doc

Date and Time Comment Was Submitted: 2009-04-22 11:57:42

No Duplicates.

Comment 221 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Chester
Last Name: Culver
Email Address: jamie.cashman@iowa.gov
Affiliation: State of Iowa

Subject: Governor Culver Comment on Low Carbon Fuel Standard
Comment:

```
The attached document is Governor Culver's comment to the
California Air Resources Board regarding the Low Carbon Fuel
Standard. Jamie Cashman on the Governor's staff
(jamie.cashman@iowa.gov) is the designated contact person regarding
this correspondence.

Sincerely,

Brian Jennings
Policy Assistant
Office of the Governor and Lt. Governor
```

Attachment: www.arb.ca.gov/lists/lcfs09/344-governor_culver_comment_to_carb_chairwoman_nichols_4-22-09.pdf

Original File Name: Governor Culver Comment to CARB Chairwoman Nichols 4-22-09.pdf

Date and Time Comment Was Submitted: 2009-04-22 11:57:51

No Duplicates.

Comment 222 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Kurt
Last Name: Blase
Email Address: kurt@blasegroup.com
Affiliation:

Subject: Comments of Center for North American Energy Security
Comment:

```
We did not receive clearance from all members prior to the 12 pm
dealine.  Please submit these comments to the Board if possible.
Thank you.
```

Attachment: www.arb.ca.gov/lists/lcfs09/345-comments_on_ca_lcfs_proposal__4-22-09_.pdf

Original File Name: Comments on CA LCFS Proposal (4-22-09).pdf

Date and Time Comment Was Submitted: 2009-04-22 12:34:49

No Duplicates.

Comment 223 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Patricia
Last Name: Staub
Email Address: pharmlaw3@yahoo.com
Affiliation: Not a lobbyist = just a farmer

Subject: Indirect Land Use is a Hoax!
Comment:

```
The Amazon Rain Forest has nothing to do with growing corn in Iowa.
 There is, in fact, an excess of corn in Iowa and the world -
witness the sharp drop in corn prices due to the glut in the US and
the World. If China doesn't import our corn we drown in it even
now. Treating US ethanol unfairly will not benefit the Rain Forest
and even if you ignore the "indirect land use" issue, there is
nothing that will prevent South America from doing what they want
with the Rainforest. Maybe they will gtow sitechgrass or sugarcane
or marijuana?  In fact, NOT importing corn ethanol from South
America may be the only control you have over the Amazon.
Boycotting our US corn will not save the Rainforest since we don't
control that land.  Saving our US industries will reduce the
deficit and prevent us from sending our dollars to the Middle East.
 You are stretching beyond reason on this one - SUPPORT U.S.
ETHANOL - I do!!
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-04-22 15:15:48

No Duplicates.

Comment 224 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Liz
Last Name: Kniss
Email Address: Non-web submitted comment
Affiliation:

Subject: Board of Supervisors- County of Santa Clara
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/348-080001.pdf

Original File Name: 080001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:15:51

No Duplicates.

Comment 225 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Joel
Last Name: Anderson
Email Address: Non-web submitted comment
Affiliation:

Subject: Re: Early Action AB 32- Low Carbon Diesel Fuel Standards
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/349-030001.pdf

Original File Name: 030001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:17:42

No Duplicates.

Comment 226 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Betty Jo
Last Name: Toccoli
Email Address: Non-web submitted comment
Affiliation:

Subject: An Analysis of the Costs to California's Small Business from AB32
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/350-040001.pdf

Original File Name: 040001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:21:50

No Duplicates.

Comment 227 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Bob
Last Name: Wasserman
Email Address: Non-web submitted comment
Affiliation:

Subject: City of Fremont
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/351-050001.pdf

Original File Name: 050001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:25:18

No Duplicates.

Comment 228 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Gary
Last Name: Wolff
Email Address: Non-web submitted comment
Affiliation:

Subject: Re: Waste Sector in the Low Carbon Fuel Standard
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/352-060001.pdf

Original File Name: 060001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:27:50

No Duplicates.

Comment 229 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Lee
Last Name: Hobbs
Email Address: Non-web submitted comment
Affiliation:

Subject: Hobbs Trucking
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/353-070001.pdf

Original File Name: 070001.pdf

Date and Time Comment Was Submitted: 2009-04-22 16:28:44

No Duplicates.

Comment 230 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Gabrielle
Last Name: Shaw
Email Address: lam.galadh@gmail.com
Affiliation:

Subject: Biofuels from Corn Ethanol is not Renewable
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/397-gabrielle_shaw.pdf

Original File Name: Gabrielle Shaw.pdf

Date and Time Comment Was Submitted: 2009-04-30 09:02:59

No Duplicates.

Comment 231 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Maya
Last Name: Puerata
Email Address: maya.mars@laposte.net
Affiliation:

Subject: Biofuels from Corn Ethanol is not Renewable
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/398-maya_puerta.pdf

Original File Name: Maya Puerta.pdf

Date and Time Comment Was Submitted: 2009-04-30 09:04:27

30 Duplicates.

Comment 232 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: Michael
Last Name: Redemer
Email Address: michaelr@communityfuels.com
Affiliation:

Subject: Community Fuels
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/403-michael_redemer.pdf

Original File Name: Michael Redemer.pdf

Date and Time Comment Was Submitted: 2009-05-08 11:49:01

No Duplicates.

Comment 233 for Low Carbon Fuel Standard (lcfs09) - 45 Day.

First Name: J.
Last Name: Capozzelli
Email Address: Non-web submitted comment
Affiliation:

Subject: The California Low Carbon Fuel Standard
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/404-j._capozelli.pdf

Original File Name: J. Capozelli.pdf

Date and Time Comment Was Submitted: 2009-05-08 11:49:59

No Duplicates.

Comment 1 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Paul
Last Name: Wuebben
Email Address: Non-web submitted comment
Affiliation:

Subject: SCAQMD
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/356-paul_wuebben.pdf

Original File Name: Paul Wuebben.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:07:02

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Matt
Last Name: Solomon
Email Address: Non-web submitted comment
Affiliation:

Subject: NESCAUM
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/357-matt_solomon.pdf

Original File Name: Matt Solomon.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:07:59

No Duplicates.

Comment 3 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Jonathan
Last Name: Burke
Email Address: Non-web submitted comment
Affiliation:

Subject: Clean Energy/ Westport
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/359-johnathan.pdf

Original File Name: Johnathan.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:10:27

No Duplicates.

Comment 4 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Jesus
Last Name: Vargas
Email Address: Non-web submitted comment
Affiliation:

Subject: Hispanic Chamber of Alameda
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/360-jesus_vargas.pdf

Original File Name: Jesus Vargas.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:11:39

No Duplicates.

Comment 5 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Eric
Last Name: Maldonado
Email Address: Non-web submitted comment
Affiliation:

Subject: Hispanic Chamber of Contra Costa
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/361-eric_maldonado.pdf

Original File Name: Eric Maldonado.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:12:33

No Duplicates.

Comment 6 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Marco Polo
Last Name: Cortes
Email Address: Non-web submitted comment
Affiliation:

Subject: San Diego Hispanic Chamber
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/362-marco_polo.pdf

Original File Name: Marco Polo.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:13:11

No Duplicates.

Comment 7 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Jerry
Last Name: Frost
Email Address: Non-web submitted comment
Affiliation:

Subject: Kern Oil & Refining
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/363-jerry_frost.pdf

Original File Name: Jerry Frost.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:13:49

No Duplicates.

Comment 8 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Mark
Last Name: Martinez
Email Address: Non-web submitted comment
Affiliation:

Subject: SJC Hispanic Chamber
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/364-mark_martinez.pdf

Original File Name: Mark Martinez.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:14:15

No Duplicates.

Comment 9 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Ruben
Last Name: Jaurequi
Email Address: Non-web submitted comment
Affiliation:

Subject: Latino Business Assa.
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/365-ruben.pdf

Original File Name: Ruben.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:15:20

No Duplicates.

Comment 10 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Michael
Last Name: Redemer
Email Address: Non-web submitted comment
Affiliation:

Subject: Community Fuels
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/366-michael_redemer.pdf

Original File Name: Michael Redemer.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:24:38

No Duplicates.

Comment 11 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Steve
Last Name: Gondola
Email Address: Non-web submitted comment
Affiliation:

Subject: Sacramento Chamber of Commerce
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/367-steve_gondola.pdf

Original File Name: Steve Gondola.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:25:22

No Duplicates.

Comment 12 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Julian
Last Name: Canete
Email Address: Non-web submitted comment
Affiliation:

Subject: CA Chamber of Commerce
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/368-julian_canete.pdf

Original File Name: Julian Canete.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:25:45

No Duplicates.

Comment 13 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: James
Last Name: Duran
Email Address: Non-web submitted comment
Affiliation:

Subject: Silicon Valley Hispanic Chamber
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/369-james_duran.pdf

Original File Name: James Duran.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:26:16

No Duplicates.

Comment 14 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Timothy
Last Name: Searchinger
Email Address: Non-web submitted comment
Affiliation:

Subject: Princeton University
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/370-timothy_searchinger.pdf

Original File Name: timothy Searchinger.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:27:29

No Duplicates.

Comment 15 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Christopher
Last Name: Holly
Email Address: Non-web submitted comment
Affiliation:

Subject: Alberta Energy
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/371-christopher_holly.pdf

Original File Name: Christopher Holly.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:27:57

No Duplicates.

Comment 16 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Dr. Mark
Last Name: Stowers
Email Address: Non-web submitted comment
Affiliation:

Subject: Growth Energy
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/372-mark_stowers.pdf

Original File Name: mark stowers.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:30:10

No Duplicates.

Comment 17 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Marc
Last Name: LePage
Email Address: Non-web submitted comment
Affiliation:

Subject: Government of Canada
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/373-marc_lepage.pdf

Original File Name: Marc LePage.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:33:26

No Duplicates.

Comment 18 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: James
Last Name: Brady
Email Address: Non-web submitted comment
Affiliation:

Subject: OMEGA Pacific /Con10u, Inc.
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/374-james_brady.pdf

Original File Name: James Brady.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:45:25

No Duplicates.

Comment 19 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Edwin
Last Name: Lombard
Email Address: Non-web submitted comment
Affiliation:

Subject: CA Black Chamber
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/375-edwin.pdf

Original File Name: Edwin.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:46:07

No Duplicates.

Comment 20 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: David
Last Name: Modisette
Email Address: Non-web submitted comment
Affiliation:

Subject: CA Electric Transportation Coalition
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/376-david_modisette.pdf

Original File Name: David Modisette.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:46:46

No Duplicates.

Comment 21 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Danielle
Last Name: Fugere
Email Address: Non-web submitted comment
Affiliation:

Subject: Friends of the Earth
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/377-danielle_fugere.pdf

Original File Name: danielle Fugere.pdf

Date and Time Comment Was Submitted: 2009-04-24 15:47:14

No Duplicates.

Comment 22 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Naomi
Last Name: Kim
Email Address: Non-web submitted comment
Affiliation:

Subject: CA Communities Against Toxics
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/378-naomi_kim.pdf

Original File Name: Naomi Kim.pdf

Date and Time Comment Was Submitted: 2009-04-28 08:46:04

No Duplicates.

Comment 23 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Kenneth
Last Name: Manaster
Email Address: Non-web submitted comment
Affiliation:

Subject: WSPA
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/379-kenneth_manaster.pdf

Original File Name: Kenneth Manaster.pdf

Date and Time Comment Was Submitted: 2009-04-28 08:46:55

No Duplicates.

Comment 24 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Charlie
Last Name: Peters
Email Address: Non-web submitted comment
Affiliation:

Subject: Clean Air Performance
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/380-charlie_peters.pdf

Original File Name: Charlie Peters.pdf

Date and Time Comment Was Submitted: 2009-04-28 08:47:34

No Duplicates.

Comment 25 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Sonia
Last Name: Yeh
Email Address: Non-web submitted comment
Affiliation:

Subject: UC Davis - Inst. of Transportation
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/381-sonia_yeh.pdf

Original File Name: Sonia Yeh.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:29:38

No Duplicates.

Comment 26 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Larry
Last Name: Weitzman
Email Address: Non-web submitted comment
Affiliation:

Subject: Mountain Democrat.
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/382-larry_weitzman.pdf

Original File Name: larry WEitzman.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:30:36

No Duplicates.

Comment 27 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Gary
Last Name: Grimes
Email Address: Non-web submitted comment
Affiliation:

Subject: Paramount Petroleum
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/383-gary_grimes.pdf

Original File Name: Gary Grimes.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:31:06

No Duplicates.

Comment 28 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Sven
Last Name: Thesen
Email Address: Non-web submitted comment
Affiliation:

Subject: Better Place
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/384-sven_thesen.pdf

Original File Name: Sven Thesen.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:31:49

No Duplicates.

Comment 29 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Forest
Last Name: Hoff
Email Address: Non-web submitted comment
Affiliation:

Subject: Iowa
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/385-forest_s._hoff.pdf

Original File Name: Forest S. Hoff.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:32:51

No Duplicates.

Comment 30 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: James
Last Name: Lutch
Email Address: Non-web submitted comment
Affiliation:

Subject: Simple Fuels Biodiesel
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/386-james_lutch.pdf

Original File Name: James Lutch.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:33:24

No Duplicates.

Comment 31 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Jamie
Last Name: Knapp
Email Address: Non-web submitted comment
Affiliation:

Subject: Environmental Coalition
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/387-jamie_knapp.pdf

Original File Name: Jamie Knapp.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:34:11

No Duplicates.

Comment 32 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Susan
Last Name: Reid
Email Address: Non-web submitted comment
Affiliation:

Subject: Conservation Law Foundation Protecting New England Enviro.
Comment:

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please see attached
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Attachment: www.arb.ca.gov/lists/lcfs09/388-susan_reid.pdf

Original File Name: Susan Reid.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:34:59

No Duplicates.

Comment 33 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Robert
Last Name: Meagher
Email Address: Non-web submitted comment
Affiliation:

Subject: MD
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/389-robert_meagher.pdf

Original File Name: Robert Meagher.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:35:25

No Duplicates.

Comment 34 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Sanjay
Last Name: Varshney
Email Address: Non-web submitted comment
Affiliation:

Subject: Small Business
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/390-sanjay.pdf

Original File Name: Sanjay.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:36:06

No Duplicates.

Comment 35 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Randal
Last Name: Friedman
Email Address: Non-web submitted comment
Affiliation:

Subject: Navy Region S.W.
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/391-randal.pdf

Original File Name: Randal.pdf

Date and Time Comment Was Submitted: 2009-04-28 09:36:49

No Duplicates.

Comment 36 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Stephen
Last Name: Kaffka
Email Address: srkaffka@ucdavis.edu
Affiliation:

Subject: UC Davis, Department of Plant Sciences
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/392-stephen_kaffka.doc

Original File Name: Stephen Kaffka.doc

Date and Time Comment Was Submitted: 2009-04-28 10:27:46

No Duplicates.

Comment 37 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Peter
Last Name: Anderson
Email Address: Non-web submitted comment
Affiliation:

Subject: Center for a Competitive Waste Industry
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/393-peter_anderson.pdf

Original File Name: Peter Anderson.pdf

Date and Time Comment Was Submitted: 2009-04-28 10:29:10

No Duplicates.

Comment 38 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Nicholas
Last Name: Lee
Email Address: Non-web submitted comment
Affiliation:

Subject: UK
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/394-nicholas_lee.doc

Original File Name: Nicholas Lee.doc

Date and Time Comment Was Submitted: 2009-04-28 10:30:12

No Duplicates.

Comment 39 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 40 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: R. Brooke
Last Name: Coleman
Email Address: Non-web submitted comment
Affiliation:

Subject: New Fuels Alliance
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/396-coleman.pdf

Original File Name: Coleman.pdf

Date and Time Comment Was Submitted: 2009-04-28 13:15:26

No Duplicates.

Comment 41 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Tom
Last Name: Talbot
Email Address: Non-web submitted comment
Affiliation:

Subject: California's Cattlemen's Assocation
Comment:

```
Please see attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/400-ag_industry_lcfs_final_letter.pdf

Original File Name: Ag Industry LCFS Final Letter.pdf

Date and Time Comment Was Submitted: 2009-05-05 10:05:34

No Duplicates.

Comment 42 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Bill
Last Name: Holmberg
Email Address: Non-web submitted comment
Affiliation:

Subject: BCC
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/401-bill_holmberg.pdf

Original File Name: Bill Holmberg.pdf

Date and Time Comment Was Submitted: 2009-05-07 13:01:36

No Duplicates.

Comment 43 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Robert
Last Name: Balgenorth
Email Address: Non-web submitted comment
Affiliation:

Subject: State Building and Construction Trades Council
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/402-robert_balgenorth.pdf

Original File Name: Robert Balgenorth.pdf

Date and Time Comment Was Submitted: 2009-05-07 13:03:13

No Duplicates.

Comment 44 for Low Carbon Fuel Standard (lcfs09). (At Hearing)

First Name: Simon
Last Name: Mui
Email Address: smui@nrdc.org
Affiliation:

Subject: NRDC
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/405-simon.pdf

Original File Name: Simon.pdf

Date and Time Comment Was Submitted: 2009-05-08 16:04:36

No Duplicates.

Comment 1 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Roobert E.
Last Name: Fisher, MSW
Email Address: rbrtfis@aol.com
Affiliation: Former City of LA Legislative Rep

Subject: Recommendations
Comment:

```
First, I recommend that the Board Adopt Emergency Regs.
Second, I recommend That the Regs. include a provision
for oil companies incentives/tax breaks to an install
LNG/CNG pump(s) at their gasoline stations for
consumers.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-05-12 11:56:39

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Robert E.
Last Name: Fisher, MSW
Email Address: rfisher580@yahoo.com
Affiliation: Concerned Citizen

Subject: Need For Emergency LCFS Regulations
Comment:

Below are two pertinent articles about Antarctica's melting ice.
It would only take a three foot sea level rise to flood the
coastlines, and cities, lowlands and islands of the world:

http://news.aol.com/article/huge-ice-chunks-break-away-
from/452969?icid=sphere_newsaol_inpage

http://news.aol.com/article/sea-level-rise/483569?icid=main|htmlws-
main|dl1|link3|http%3A%2F%2Fnews.aol.com%2Farticle%2Fsea-level-rise%2F483569

Once the Antarctica's Wilkens Ice Shelf completely breaks away,
(Chunks have already broken away within the last week) it would
enable the Antarctica's glaciers to slide into the sea at a faster
rate in the future.

Should the glaciers slide into the sea, there would be a at least
a ten meter rise in sea levels that would flood coastlines, cities,
states, lowlands, and islands of the world. Major Cities, such as,
San Diego, Long Beach, parts of Los Angeles, Santa Barbara, San
Francisco, Oakland, Portland, Seattle, and Vancouver, Canada on the
West Coast would be flooded. Cities, such as, as New York, Boston,
Washington, D. C., Miami, on the East Coast would be flooded. The
Great Lakes cities, such as, Chicago, Detroit, Cleveland, Toronto,
and Toledo would be flooded. States, such as, Florida, Hawaii and
Alaska would be flooded. The Gulf Coast cities, such as, Mobile,
Biloxi, Gulf Port, New Orleans, Houston, Galveston, and Corpus
Cristi, would be flooded.

Also, parts of the British Isles, the Caribbean Islands, Hong
Kong, Shanghai, Singapore, the Philippines, Cuba, and parts of
Australia, New Zealand, Africa, and South America would be
flooded.

I continue to keep you informed re: developments of global warming
and its effects on the coastlines, cities, states,
Below are two pertinent articles about Antarctica's melting ice.
It would only take a three foot sea level rise to flood the
coastlines, and cities, lowlands and islands of the world:

http://news.aol.com/article/huge-ice-chunks-break-away-
from/452969?icid=sphere_newsaol_inpage

http://news.aol.com/article/sea-level-rise/483569?icid=main|htmlws-
main|dl1|link3|http%3A%2F%2Fnews.aol.com%2Farticle%2Fsea-level-rise%2F483569

Once the Antarctica's Wilkens Ice Shelf completely breaks away,

(Chunks have already broken away within the last week) it would enable the Antarctica's glaciers to slide into the sea at a faster rate in the future.

Should the glaciers slide into the sea, there would be a at least a ten meter rise in sea levels that would flood coastlines, cities, states, lowlands, and islands of the world. Major Cities, such as, San Diego, Long Beach, parts of Los Angeles, Santa Barbara, San Francisco, Oakland, Portland, Seattle, and Vancouver, Canada on the West Coast would be flooded. Cities, such as, as New York, Boston, Washington, D. C., Miami, on the East Coast would be flooded. The Great Lakes cities, such as, Chicago, Detroit, Cleveland, Toronto, and Toledo would be flooded. States, such as, Florida, Hawaii and Alaska would be flooded. The Gulf Coast cities, such as, Mobile, Biloxi, Gulf Port, New Orleans, Houston, Galveston, and Corpus Cristi, would be flooded.

Also, parts of the British Isles, the Caribbean Islands, Hong Kong, Shanghai, Singapore, the Philippines, Cuba, and parts of Australia, New Zealand, Africa, and South America would be flooded.

I continue to keep you informed re: developments of global warming and its effects on the coastlines, cities, states, lowlands, and islands of the world. My responsibility is never ending, in keeping with the University of California's Alumni's Duties and Responsibilities (1983).

by,
Robert E. Fisher, MSW, 1971
The University of California at Los Angeles (UCLA)
Former City of Los Angeles Legislative Analyst/Rep to The California Coastal Commission 1974-79
http://robertefisher.com/home-x.html

--
An Excellent Credit Score is 750. See Yours in Just 2 Easy Steps!

!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-05-16 05:41:34

No Duplicates.

Comment 3 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Robert E.
Last Name: Fisher, MSW
Email Address: rfisher580@yahoo.com
Affiliation: Former City of Los Angeles Analyst

Subject: A Critique of the LCFS website
Comment:

```
The website for LCFS is "full of sound and fury
signifying nothing."

It is full of studies,reports, charts and graphs
that are too techincal for the average layman.

With all of the above together with the names and
titles of the documentation, there is no association
or link to the adverse negative environmental impact
that will be the result of failure to implement the
LCFS.  Also, there appears to be a bias to electrical
autos and outdated biofuels and an opposition to
the more practical alternative fuels, in particular,
CNG and LNG for consumer autos at gasoline stations.

The solution to global warming is to provide tax
credits to the oil companies to install CNG/LNG pumps for
for public use at their gasoline stations.
```

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-05-21 17:28:01

No Duplicates.

Comment 4 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Calvin
Last Name: Hamilton
Email Address: rhamilton@darlingii.com
Affiliation: Darling International inc.

Subject: Comments on pathways for converting used cooking oil and tallow to biodiesel or renewable
Comment:

Darling International Inc. ("Darling")is commenting on two pathways released by the California Air Resources Board ("CARB")in its July 20, 2009 announcement.Specifically, Darling offers comments on the pathways for (1) convering used cooking oil (UCO) to biodiesel and (2) tallow to renwable diesel.

Darling encourages CARB to consider a broader survey of rendering industry data for natural gas and electricity used to produce Tallow and UCO too. This may help to address concerns that the UCO pathway and the Tallow pathway relied on very different sources to obtain data on the energy used for processing UCO and rendering animal by-products. More consistency in the approach used in each of these pathways is appropriate because the same renderers frequently use the same site for both processes: processing UCO and rendering of animal by-products.

Darling also encourages CARB to complete the following regarding these and subsequent pathways:

1. Develop a pathway for making biodiesel from Tallow (produced in California) as soon as is practicable.

2. Address our concerns with using co-processing of Tallow with crude oil for its Tallow to renewable diesel pathway. Darling recommends using a dedicated hydro-treating facility that produces a pure renewable diesel that is suitable for use neat or for blending with petroleum diesel.

3. Remove the transportation of Tallow from the Midwest to make renewable diesel and modify the Tallow to renewable diesel pathway to apply to Tallow produced in California.

4. Develop a pathway using UCO as a feedstock for renewable diesel in a dedicated facility similar to the one recommended for Tallow.

5. Consider methodology that can be applied to determining the carbon intensity of blended feedstocks consisting of various proportions of UCO and Tallow when such blends are used as feedstock for either biodiesel or renewable diesel.

These and other comments are detailed in the attached file.

Attachment: www.arb.ca.gov/lists/lcfs09/410-darling_international_comments_to_lcfs_09.pdf

Original File Name: Darling International comments to LCFS 09.pdf

Date and Time Comment Was Submitted: 2009-08-17 10:04:22

No Duplicates.

Comment 5 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Shelby
Last Name: Neal
Email Address: sneal@biodiesel.org
Affiliation: National Biodiesel Board

Subject: Comments on Tallow and UCO LCFS Pathways
Comment:

```
Please find attached comments from the National Biodiesel Board on
the recently released pathways for renewable diesel produced from
Tallow and biodiesel produced from Used Cooking Oil.  If you should
have any questions, please feel free to call at any time.

Sincerely,

Shelby Neal
Director of State Governmental Affairs
National Biodiesel Board
```

Attachment: www.arb.ca.gov/lists/lcfs09/411-o__connor_tallow_report_8-14-09.zip

Original File Name: O'Connor Tallow Report 8-14-09.zip

Date and Time Comment Was Submitted: 2009-08-18 08:29:10

No Duplicates.

Comment 6 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: F. Jon
Last Name: Holzfaster
Email Address: ncb.info@nebraska.gov
Affiliation: Nebraska Corn Board

Subject: Amendments to the Low Carbon Fuel Standard
Comment:

August 18, 2009

Mary Nichols, Chairwoman
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Dear Chairwoman Nichols and members of the board:

On behalf of 26,000 corn producers in the state of Nebraska, we thank the California Air Resources Board (CARB) for the opportunity to comment on the amendments to the low carbon fuel standard. We believe that with the increased usage and production of biofuels that states such as California and our nation can reduce our carbon footprint. Although we have serious concerns about the passed regulations that CARB adopted at their March hearing, we will keep these submitted comments in reference to the amendments released on July 20, 2009.

First, we applaud the formation of the expert workgroup and the opportunity to have an unbiased and scientifically robust discussion on the list of topics that the staff has presented for discussion. We believe that there are many very well qualified individuals in both private and academia ranks that we will submit names for recommendation of inclusion on the expert work group. In addition, although we do not agree with indirect land use change, we believe that there should be a coordination of efforts amongst those that want to apply this penalty to biofuels. Those mainly should include here in the US, the Environmental Protection Agency, and if you look at the current figures, they do not match up.

Secondly, CARB released their preliminary draft for public comment on method 2 in which a regulated party has the opportunity to present a new pathway or a sub-pathway of an already approved pathway. We again applaud this opportunity, but take serious concern to the possibility of a fee schedule being attached to method 2 submissions. The reason for this concern is that we don't believe you have taken into account all types of ethanol production practices. For instance, here in Nebraska, some of the plants produce a modified wet distillers grains (MWDG). This product has a dry matter in the range of 45 – 50%. Currently you do not have a pathway for the production of MWDG and in order to quantify this pathway that you do not have, a regulated party will need to pay a fee for an approved pathway. This again, raises serious concerns as it seems a pay to play mentality.

Lastly, in a presentation by a staff member titled “Draft Guidance to Regulated Parties On Establishing New Fuel Pathways and Sub-Pathways” it states on slide 20 that fuel with no indirect effects are those that do not displace food, feed or fiber crops. We again disagree with this analogy. Corn based ethanol is not displacing food, feed or fiber crops. The basis behind that statement is as you look back over time, producers across this nation have produced a corn crop that has continually met the demands of all uses. In fact the supply of corn (less the usage for ethanol) has consistently been above 10 billion bushels; exports have stayed on trendline of around 1.9 billion bushels, in fact the US had record exports in 2007-2008; all the while seeing a carryout that has increased the last 3 years. In addition, through corn based ethanol, you have a feed co-production in the distillers grains product that is displacing corn in the various livestock rations. All of this again is some of the basis of why we don’t believe that corn based ethanol should be penalized for significant indirect effects such as land use change.

In closing, we appreciate the opportunity to comment again and ask that you consider the concerns that we outlined above, while at the same time moving forward with aspects of the formation of the expert work group.

Sincerely,

F. Jon Holzfaster
Chairman
Nebraska Corn Board

Don Hutchens
Executive Director
Nebraska Corn Board

Attachment: www.arb.ca.gov/lists/lcfs09/412-carb_lcfs_submitted_comments_modified_text_august_2009.doc

Original File Name: CARB LCFS Submitted Comments_Modified Text_August 2009.doc

Date and Time Comment Was Submitted: 2009-08-18 11:42:11

No Duplicates.

Comment 7 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Claudinei
Last Name: Andreoli
Email Address: andreoli@cnpso.embrapa.br
Affiliation: Embrapa

Subject: Comment on Detailed California-Modified GREET for Brazilian Sugarcarne Ethanol
Comment:

```
Dear Sir/Madam

Enclosed comments on "Detailed California-Modified Greet Pathways
for Brazilian Sugarcane Ethanol: Average Brazilian Ethanol, with
Mechanized Harvesting and Electricity Co-product Credit, with
Electricity Co-product Credit (July 20, 2009)".
The Document needs to be completely reviewed.

Sincerely yours,

Claudinei Andreoli, Ph.D
Bioenergy Research
Embrapa
Londrina, PR 86.970-000 - Brazil
tel. 55 43 3371.6235
Email: andreoli@cnpso.embrapa.br
Email after August 31: claudinei.andreoli@gmail.com
```

Attachment: www.arb.ca.gov/lists/lcfs09/413-comment_carb_july_20_2009_1_.doc

Original File Name: Comment%CARB%July 20_2009[1].doc

Date and Time Comment Was Submitted: 2009-08-18 14:08:30

No Duplicates.

Comment 8 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Gregory
Last Name: Adams
Email Address: gadams@lacsd.org
Affiliation: Los Angeles County Sanitation Districts

Subject: Comments on Modified Regulation Order - Low Carbon Fuel Standard Regulation
Comment:

```
Comments on Modified Regulation Order - Low Carbon Fuel Standard
Regulation
```

Attachment: www.arb.ca.gov/lists/lcfs09/414-dms-_1342523-v1-lcfs_modified_regulated_order_comment_letter_august_19__2009.pdf

Original File Name: DMS-#1342523-v1-LCFS_Modified_Regulated_Order_Comment_Letter_August_19__2009.pdf

Date and Time Comment Was Submitted: 2009-08-18 16:16:22

No Duplicates.

Comment 9 for Low Carbon Fuel Standard (lcfs09) - 15-1.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 10 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Cal
Last Name: Hodge
Email Address: A2ndOpinionInc@aol.com
Affiliation: A 2nd Opinion, Inc. On behalf of Neste

Subject: Comments on 072009 MODIFIED REGULATION ORDER
Comment:

```
I noticed some formating intended to identify text that I think
should be removed or added was deleted from the earlier
transmission.  Therefore, to facilitate staff's understanding of my
comments I have attached a PDF file containing my comments.
```

Attachment: www.arb.ca.gov/lists/lcfs09/416-a2o_comments_on_072009_modified_regulation_order.pdf

Original File Name: A2O Comments on 072009 MODIFIED REGULATION ORDER.pdf

Date and Time Comment Was Submitted: 2009-08-18 17:57:39

No Duplicates.

Comment 11 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Cal
Last Name: Hodge
Email Address: A2ndOpinionInc@aol.com
Affiliation: A 2nd Opinion, Inc. On behalf of Neste

Subject: Renewable Diesel from US Tallow Pathway
Comment:

A 2nd Opinion, Inc.

Clean Fuels & Regulatory Issues

Cal Hodge, President

Clerk of the Board

Air Resources Board

1001 “I” Street, 23rd Floor

Sacramento, California 95814

Via Electronic submittal:
http://www.arb.ca.gov/lispub/comm/bclist.php

Attached are A 2nd Opinion, Inc.'s comments on the Detailed California-Modified GREET Pathway for Renewable Diesel Produced in California from Tallow (U. S. Sourced) July 20, 2009 draft and three spreadsheets containing supporting documentation.

cc: Anil Prabhu: aprabhu@arb.ca.gov

Chan Pham: cpham@arb.ca.gov

Alan Glabe: aglabe@arb.ca.gov

bcc: Client

For A 2nd Opinion, Inc.

Cal Hodge

19 Serenade Pines Place - The Woodlands, TX 77382-2005
Phone: 281-844-4162 FAX: 281-966-6914
Email: A2ndOpinionInc@aol.com

Attachment: www.arb.ca.gov/lists/lcfs09/417-a2o_comments_rd_from_us_tallow_pathway.zip

Original File Name: A2O Comments RD from US Tallow Pathway.zip

Date and Time Comment Was Submitted: 2009-08-18 18:06:33

No Duplicates.

Comment 12 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Naomi
Last Name: Melver
Email Address: nmelver@gmail.com
Affiliation:

Subject: Comments on LCFS
Comment:

```
Please see letter attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/418-arb_lcfs_comments_8-18-09.pdf

Original File Name: ARB_LCFS_Comments_8-18-09.pdf

Date and Time Comment Was Submitted: 2009-08-18 18:25:03

No Duplicates.

Comment 13 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Richard
Last Name: Lowenthal
Email Address: richard@coulombtech.com
Affiliation: Coulomb Technologies

Subject: Broadening alternate metering methods
Comment:

```
To: whom it may concern:
Date: 8/18/09
From: Richard Lowenthal, CEO of Coulomb Technologies
Regarding: 30 day notice of metering language

============================================

In section (c )(3) ( C ) 1 in the metering language, it says:


1. For residential charging stations, the total electricity
dispensed (in kWh) to all vehicles at each residence based
on direct metering, which distinguishes electricity delivered
for transportation use. Before January 1, 2015, “based on
direct metering” means either:

a. the use of direct metering (also called submetering) to
measure the electricity directly dispensed to all
vehicles at each residential charging station; or

b. for households and residences only where direct
metering has not been installed, the regulated party
may report the total electricity dispensed at each
residential charging station using another method that
the regulated party demonstrates to the Executive
Officer’s satisfaction is substantially similar to the use
of direct metering under section (c)(3)(C)1.a..



…. But we believe it should say:

1. For charging stations, the total electricity
dispensed (in kWh) to all vehicles based
on direct metering, which distinguishes electricity delivered
for transportation use. Before January 1, 2015, “based on
direct metering” means either:

a. the use of direct metering (also called submetering) to
measure the electricity directly dispensed to all
vehicles at each charging station; or

b. Where direct
metering has not been installed, the regulated party
may report the total electricity dispensed at each
charging station using another method that
```

the regulated party demonstrates to the Executive
Officer’s satisfaction is substantially similar to the use
of direct metering under section (c)(3)(C)1.a..b. Where direct
metering has not been installed, the regulated party
may report the total electricity dispensed at each
charging station using another method that
the regulated party demonstrates to the Executive
Officer’s satisfaction is substantially similar to the use
of direct metering under section (c)(3)(C)1.a..

Justification:
We see a lot of charging stations installed outside households and residences, even when the station is for residential use. For example we have installed curbside charging for people who do not have a home garage, but the stations are on meters shared for other purposes. In San Jose, we have stations on meters that are also used for traffic signals. In parking lots we are usually on a circuit which is also used for lighting. We also want to be sure that in mixed use retail-housing parking lots, that these metering provisions are effective. In cities like San Francisco the majority of vehicle charging for residents will not be in a home garage and so this provision must apply outside the home garage. San Francisco residents mostly park on-street, with the next most common place being in shared parking lots. We shouldn’t leave those residents out of this provision.

Thank you for your consideration,
Richard Lowenthal

Attachment: www.arb.ca.gov/lists/lcfs09/420-comments_on_metering_language.doc

Original File Name: Comments on metering language.doc

Date and Time Comment Was Submitted: 2009-08-18 21:04:17

No Duplicates.

Comment 14 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: John
Last Name: Matthews
Email Address: john.mathews@mgsm.edu.au
Affiliation: Macquarie University (Australia)

Subject: Analysis of Biofuels Indirect Land Use Effects Finds the Science Lacking
Comment:

Analysis of Biofuels Indirect Land Use Effects Finds the Science Lacking
Too Diffuse and Subject To Too Many Arbitrary Assumptions To Be Useful for Rule-making.

– Lack of transparency and scientific integrity in Searchinger et al. questioned;
- Searchinger et al. paper described as more ideology than science and seeking to put biofuels in worst possible light;
- Alternative approaches likely to be more fruitful in genuinely evaluating effects of biofuels grown around the world.

A scholarly analysis of the keystone of indirect land use study – Searchinger et al. – found the science fell far short of acceptable scientific standards. Professor John Mathews and Dr. Hao Tan, researchers from Macquarie University in Sydney, Australia, undertook an exhaustive analysis of Searchinger et al. which revealed that the framework used was inappropriate in that it started with assumptions as to diversion of grain to ethanol production in the U.S. but then extrapolated these to parts of the world, such as sugarcane growing in Brazil, which are actually (much) more bio-efficient. Mssrs. Mathews and Tan's analysis concluded that Searchinger et al. failed sound scientific standards on many fronts and that government agencies relying on Searchinger et al. findings for evaluating biofuels would be better served by utilizing other controls.

"Indirect land use change effects are too diffuse and subject to too many arbitrary assumptions to be useful for rule-making," stated Professor Mathews. "The use of direct and controllable measures such as building statements of origin or biofuels into the contracts that regulate the sale of such commodities would secure better results."

The issue is where to draw the boundary for life cycle analysis and how to address ILUC effects within the boundary. Non-industry experts are concerned that this is taking regulatory action too far, and the science underpinning such actions, including the ILUC calculations of authors such as Searchinger et al., cannot stand the scientific weight being placed upon them.

The Mathews and Tan analysis states that the real target of the Searchinger et al. paper would appear to be the model of U.S. ethanol production developed by the Argonne National Laboratory in the U.S. Researchers at Argonne have developed a model for biofuels production and consumption in the U.S. that takes full life cycle

analysis issues into consideration as well as some attention to land use changes. But the Argonne work does not extend to indirect land use changes, which are considered too uncertain to be modeled – and so it has come in for much criticism from Searchinger et al. as well as others.

“If you wished to put U.S. ethanol production in the worst possible light, assuming the worst possible set of production conditions guaranteed to give the worst possible set of indirect land use effects, then the assumptions would not be far from those actually presented in the Searchinger et al. paper,” commented Dr. Hao Tan. “Frankly, better science upon which to base rule-making is available today.”

The Mathews and Tan analysis identified six areas in which Searchinger et al. fell short:

* Direct plantings of biofuels crops around the world are ignored, and instead a spike in U.S. corn-based ethanol is considered a trigger;
* The U.S. spike is met exclusively by growing corn – but other ways of meeting the U.S. spike, all involving fewer GHG emissions, are ignored;
* The U.S. spike met entirely within the U.S. – without regard to trade (such as half of the spike being met by Brazilian sugarcane and imported into the U.S.);
* The Searchinger et al. calculations of carbon release are based on trends recorded in the 1990s but are projected forward up to 2016;
* Improvements in biomass yields around the world are not considered;
* The U.S. spike leads to indirect effects around the world without regard to regulatory limits (even in the U.S.).

“These six shortcomings, together with the fact that the paper is not replicable, since the models and parameters used are not accessible, places a question mark over the refereeing procedures used for this paper by the journal Science,” added John Mathews. “A paper that seeks to place a procedure in the worst possible light, and refrains from allowing others to check its results, is perhaps better described as ideology than as science.”

The full analysis – Biofuels and indirect land use change effects: the debate continues – is available here.

About John Mathews. Professor Mathews is professor of strategic management at Macquarie University in Sydney, Australia. As a specialist in technology and innovation, he is interested in the renewable energy industries and in particular biofuels industries. He has worked internationally with UNCTAD, UNIDO and with the World Bank. He takes up the Foundation ENI Chair in competitive dynamics and global strategy at LUISS Guido Carli university, in Rome, in September.

About Hao Tan. Dr. Tan holds a doctor of business administration from Macquarie University in Sydney, Australia (Vice-Chancellor’s Commendation For Excellence In Postgraduate Research). He is currently supervisor research analyst and conducts research on cyclical industrial dynamics which he has presented at numerous international conferences.

Attachment: www.arb.ca.gov/lists/lcfs09/421-analysis_of_biofuels_indirect_land_use_effects_finds_the_science_lacking.pdf

Original File Name: Analysis of Biofuels Indirect Land Use Effects Finds the Science Lacking.pdf

Date and Time Comment Was Submitted: 2009-08-19 11:41:58

No Duplicates.

Comment 15 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Joel
Last Name: Velasco
Email Address: joel@unica.com.br
Affiliation: Brazilian Sugarcane Industry Association

Subject: UNICA's Comments on Proposed New Pathways for Brazil Sugarcane Ethanol
Comment:

The Brazilian Sugarcane Industry Association (UNICA) welcomes the opportunity to provide specific comments on “Detailed California-Modified GREET Pathways for Brazilian Sugarcane Ethanol: Average Brazilian Ethanol, with Mechanized Harvesting and Electricity Co-product Credit (Version 2.2),” which the staff of the California Air Resources Board (CARB) published on 20 July 2009.

The attached letter expands on our previous correspondence regarding lifecycle calculations of sugarcane ethanol and includes a number of specific recommendations concerning the calculations of indirect land use change in the Low Carbon Fuel Standard (LCFS). (See http://www.arb.ca.gov/lispub/comm/bccomdisp.php?listname=lcfs09&comment_num=129&virt_num=107)

While UNICA is pleased that CARB has recognized several of our recommended changes on the “direct” lifecycle calculations, we are concerned about the delays in addressing the “indirect” land use change component of the calculations for the LCFS. We strongly urge CARB to act quickly in addressing the numerous concerns we –– as well as a number of other stakeholders –– have raised with regards to accuracy of CARB’s calculations of the indirect effects of biofuels production. The alleged “indirect” land use change penalty, currently set at 46 gCO2/MJ by CARB, is nearly four times greater than the “direct” lifecycle of sugarcane ethanol as calculated by the staff in the proposed new pathways.

Following a brief introduction of UNICA as having a direct and significant interest in these calculations, this letter focuses on cogeneration credits, straw yield and trash content of cane farming, cane transportation to the mill, energy consumption in agricultural lime production, and maritime transportation of ethanol.

I hope this letter will contribute to improving the development of the LCFS in California and remain at your disposal to answer any questions you or your colleagues may have.

Sincerely,
/
Joel W. Velasco
Chief Representative – North America
UNICA - Brazilian Sugarcane Industry Association
1711 N Street NW - First Floor
Washington, DC 20036-2801

Phone: +1 (202) 506-5299
Fax: +1 (202) 747-5836

Attachment: www.arb.ca.gov/lists/lcfs09/422-unica_comments_to_lcfs_new_sugarcane_pathways.pdf

Original File Name: UNICA Comments to LCFS New Sugarcane Pathways.pdf

Date and Time Comment Was Submitted: 2009-08-19 11:59:52

No Duplicates.

Comment 16 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Mike
Last Name: Beckman
Email Address: michael.beckman@linde.com
Affiliation: Linde North America

Subject: Comments on the Modified Text for the LCFS Regulation
Comment:

```
Attached is a letter (pdf file) from Linde North America regarding
the LCFS regulation.

Thank you for the opportunity to comment.
```

Attachment: www.arb.ca.gov/lists/lcfs09/423-linde_letter_08-19-09_to_air_resources_board_on_lcfs.pdf

Original File Name: Linde Letter 08-19-09 to Air Resources Board on LCFS.pdf

Date and Time Comment Was Submitted: 2009-08-19 12:26:18

No Duplicates.

Comment 17 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Tom
Last Name: Buis
Email Address: tbuis@growthenergy.org
Affiliation: Growth Energy

Subject: Growth Energy Comments
Comment:

```
Comments Part 1 of 2
```

Attachment: www.arb.ca.gov/lists/lcfs09/424-lcfs_30day_comments.pdf

Original File Name: LCFS_30Day_Comments.pdf

Date and Time Comment Was Submitted: 2009-08-19 13:56:17

No Duplicates.

Comment 18 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Tom
Last Name: Buis
Email Address: tbuis@growthenergy.org
Affiliation: Growth Energy

Subject: Growth Energy Comments
Comment:

```
Comments Part 2 of 2
```

Attachment: www.arb.ca.gov/lists/lcfs09/425-bdale_jlyons_declarations.zip

Original File Name: BDale_JLyons_Declarations.zip

Date and Time Comment Was Submitted: 2009-08-19 13:59:15

No Duplicates.

Comment 19 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Dan
Last Name: Riley
Email Address: dan.t.riley@tsocorp.com
Affiliation:

Subject: Tesoro Corp Comments on CA Air Resources Board's - Low Carbon Fuel Standard
Comment:

```
Attached comments from Tesoro Corp.


Dan T. Riley
Vice President
State & Local Government Affairs
(210)626-4860
```

Attachment: www.arb.ca.gov/lists/lcfs09/426-california_air_resources_board.pdf

Original File Name: California Air Resources Board.pdf

Date and Time Comment Was Submitted: 2009-08-19 14:06:48

No Duplicates.

Comment 20 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Kirk
Last Name: Cobb
Email Address: kcobb@superiorpt.com
Affiliation: Superior Process Technologies

Subject: Comments and Recommendations for the CARB "UCO to Biodiesel" Model
Comment:

Anil Prabhu
California Air Resources Board
Mr. Prabhu,

Attached are my comments and suggestions for the CARB GREET model for the “UCO (used cooking oil) to Biodiesel” document.

Several of us in this engineering office have independently reviewed the CARB UCO-BD document, and have different perspectives on suggested changes. We hope you find our comments useful and constructive. They may be somewhat critical, but are all offered honestly and in good faith. Our goal in offering these criticisms and suggestions is to strengthen your document, so that it can be ultimately received as an authoritative reference document, and highly regarded within the industry.

Two key suggestions that I am offering refer to:

1) adding “energy ratios” to the CARB document, and
2) avoiding the use of CARB “default” values as a basis for your calculations, but instead use recognized industry standard references as a basis for your estimates and calculations.

These two suggestions are described in more detail in the attached document.

I firmly believe that my suggestions will help to improve the CARB “UCO to BD” document.

If you have any questions or thoughts, or wish to have further discussion, please feel free to call me any time.

Sincerely,

Kirk T. Cobb
Process Design Engineer
Superior Process Technologies
2520 Broadway St, NE
Gleeson Place Suite # 200
Minneapolis, Minnesota 55413
kcobb@superiorpt.com
612-378-4770

Attachment: www.arb.ca.gov/lists/lcfs09/427-ghg_-_uco_carb_model_comments_and_recommendations.doc

Original File Name: GHG - UCO CARB Model Comments and Recommendations.doc

Date and Time Comment Was Submitted: 2009-08-19 14:16:34

No Duplicates.

Comment 21 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Joseph
Last Name: Valdespino
Email Address: jvaldespino@superiorpt.com
Affiliation: Superior Process Technologies, Inc.

Subject: Critique of CA-GREET pathway for UCO-Biodiesel
Comment:

See attached

Attachment: www.arb.ca.gov/lists/lcfs09/428-ca-greet_critique.doc

Original File Name: CA-GREET critique.doc

Date and Time Comment Was Submitted: 2009-08-19 14:21:31

No Duplicates.

Comment 22 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Joseph
Last Name: Valdespino
Email Address: jvaldespino@superiorpt.com
Affiliation: Superior Process Technologies, Inc.

Subject: CA-GREET pathway Rankings
Comment:

```
See attached.  Add to previous transmission.
```

Attachment: www.arb.ca.gov/lists/lcfs09/429-greet_rankings.xls

Original File Name: GREET Rankings.xls

Date and Time Comment Was Submitted: 2009-08-19 14:23:25

No Duplicates.

Comment 23 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Philip
Last Name: Miller
Email Address: 2pmiller@comcast.net
Affiliation: Eureka Seeds Inc.

Subject: Letter reguarding impact of proposed regulations
Comment:

```
Please Read and forward attachment to all interested parties
```

Attachment: www.arb.ca.gov/lists/lcfs09/430-eureka_letter__00241054_.doc

Original File Name: Eureka Letter (00241054).DOC

Date and Time Comment Was Submitted: 2009-08-19 14:24:57

No Duplicates.

Comment 24 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Kurt
Last Name: Blase
Email Address: kurt@blasegroup.com
Affiliation: Center For North American Energy Securit

Subject: CNAES Comments on July 2009 LCFS Proposal
Comment:

```
The Comments of the Center for North American Energy Security
(CNAES) on the July 2009 LCFS proposal are attached. Please contact
me at the address above with questions or comments.

Sincerely,

Kurt E. Blase
General Counsel
Center for North American Energy Security
```

Attachment: www.arb.ca.gov/lists/lcfs09/431-comments_on_ca_lcfs_proposal__8-19-09_.pdf

Original File Name: Comments on CA LCFS Proposal (8-19-09).pdf

Date and Time Comment Was Submitted: 2009-08-19 14:26:31

No Duplicates.

Comment 25 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Michael
Last Name: Murray
Email Address: mmurray@sempra.com
Affiliation: Sempra Energy

Subject: LCFS, Pathway for LNG from North American and Remote Natural Gas Sources
Comment:

```
Sempra Energy comments regarding LCFS, Notice of Public
Availability of Modified Text and Additional Documents issued July
19, 2009.
```

Attachment: www.arb.ca.gov/lists/lcfs09/432-sempra_commts_pathway_4_north_amer_lng_att_a_8.19.09.pdf

Original File Name: Sempra Commts Pathway 4 North Amer LNG ATT A 8.19.09.pdf

Date and Time Comment Was Submitted: 2009-08-19 14:46:27

No Duplicates.

Comment 26 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Michael
Last Name: Murray
Email Address: mmurray@sempra.com
Affiliation: Sempra Energy

Subject: LCFS, Pathway for LNG from North American and Remote Natural Gas Sources
Comment:

```
Sempra Energy comments regarding LCFS, Notice of Public
Availability of Modified Text and Additional Documents issued July
19, 2009.
```

Attachment: www.arb.ca.gov/lists/lcfs09/433-sempra_commts_lcfs.lng_pathways_8.19.09.pdf

Original File Name: Sempra Commts LCFS.LNG Pathways 8.19.09.pdf

Date and Time Comment Was Submitted: 2009-08-19 15:02:26

No Duplicates.

Comment 27 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Chuck
Last Name: White
Email Address: cwhite1@wm.com
Affiliation: Waste Management

Subject: Waste Management comments on LCFS modified text
Comment:

```
Please refer to our attached written comments.

Best regards,

Charles A. White, PE
Director of Regulatory Affairs/West
Waste Management
```

Attachment: www.arb.ca.gov/lists/lcfs09/434-waste_management_comments_on_lcfs_modifed_text.pdf

Original File Name: Waste Management Comments on LCFS Modifed Text.pdf

Date and Time Comment Was Submitted: 2009-08-19 15:12:55

No Duplicates.

Comment 28 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Rob
Last Name: Elliott
Email Address: ilcorn@ilcorn.org
Affiliation:

Subject: Land Use Change Comments
Comment:

```
Please see attached comments.
```

Attachment: www.arb.ca.gov/lists/lcfs09/436-carb_submission_8_19_2009.pdf

Original File Name: CARB Submission 8 19 2009.pdf

Date and Time Comment Was Submitted: 2009-08-19 15:20:31

No Duplicates.

Comment 29 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Bob
Last Name: Dickey
Email Address: bobandmarydickey@hotmail.com
Affiliation: National Corn Growers Association

Subject: Low Carbon Fuel Standard- Comments
Comment:

```
Please find comments on the LCFS proposal attached. Please confirm
reciept.
```

Attachment: www.arb.ca.gov/lists/lcfs09/437-ncga_carb_comments-final-08-19-09.pdf

Original File Name: NCGA CARB Comments-FINAL-08-19-09.pdf

Date and Time Comment Was Submitted: 2009-08-19 15:36:46

No Duplicates.

Comment 30 for Low Carbon Fuel Standard (lcfs09) - 15-1.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 31 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: H. Daniel
Last Name: Sinks
Email Address: h.daniel.sinks@conocophillips.com
Affiliation: ConocoPhillips

Subject: Comments on the Modified Text of the LCFS Regulation
Comment:

```
Thank you for the opportunity to comment regarding the LCFS
regulation.  Our comments are attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/439-conocophillips_lcfs_8_19_09__comments.pdf

Original File Name: ConocoPhillips LCFS 8_19_09_ comments.pdf

Date and Time Comment Was Submitted: 2009-08-19 16:22:50

No Duplicates.

Comment 32 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Fernando
Last Name: Garcia
Email Address: garcia@amyris.com
Affiliation: Amyris Biotechnologies

Subject: LCFS - Proposed New Pathways
Comment:

```
Respectfully submitted as attached by Fernando Garcia.
```

Attachment: www.arb.ca.gov/lists/lcfs09/441-amyris_comments_-_arb_19aug09.pdf

Original File Name: Amyris Comments - ARB 19Aug09.pdf

Date and Time Comment Was Submitted: 2009-08-19 16:44:34

No Duplicates.

Comment 33 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Pete
Last Name: Price
Email Address: pete@pricecon.com
Affiliation: CA Natural Gas Vehicle Coalition

Subject: LCFS 30-Day Modification
Comment:

```
Attached are comments of the CA Natural Gas Vehicle Coalition
```

Attachment: www.arb.ca.gov/lists/lcfs09/442-lcfs--cngvc_comments_on_30-day_mods_8-19-09.doc

Original File Name: lcfs--cngvc comments on 30-day mods 8-19-09.doc

Date and Time Comment Was Submitted: 2009-08-19 16:55:14

No Duplicates.

Comment 34 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Catherine
Last Name: Reheis-Boyd
Email Address: Non-web submitted comment
Affiliation:

Subject: Western States Petroleum Association
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/444-catherine.pdf

Original File Name: Catherine.pdf

Date and Time Comment Was Submitted: 2009-08-20 11:34:42

No Duplicates.

Comment 35 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Ralph J.
Last Name: Moran
Email Address: Non-web submitted comment
Affiliation:

Subject: BP Americica Inc.
Comment:

```
please see attached
```

Attachment: www.arb.ca.gov/lists/lcfs09/445-ralph.pdf

Original File Name: Ralph.pdf

Date and Time Comment Was Submitted: 2009-08-20 16:09:04

No Duplicates.

Comment 36 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: todd
Last Name: campbell
Email Address: Non-web submitted comment
Affiliation:

Subject: Clean Energy
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/447-clean_energy.pdf

Original File Name: clean energy.pdf

Date and Time Comment Was Submitted: 2009-08-26 13:35:28

No Duplicates.

Comment 37 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: David
Last Name: Modisette
Email Address: Non-web submitted comment
Affiliation:

Subject: California Electric Transportations Coalition
Comment:

please see attached

Attachment: www.arb.ca.gov/lists/lcfs09/448-california_electric.pdf

Original File Name: California Electric.pdf

Date and Time Comment Was Submitted: 2009-08-26 13:40:59

No Duplicates.

Comment 38 for Low Carbon Fuel Standard (lcfs09) - 15-1.

First Name: Geoff
Last Name: Cooper
Email Address: Non-web submitted comment
Affiliation:

Subject: Renewable Fuels Association
Comment:

All,

There was a minor error in the LCFS comments we submitted Wednesday. The error is in the table on page 7 comparing Winrock emissions factors to Woods Hole factors (the Woods Hole grassland factors were incorrect). The attached document corrects that error. Thank you.

Geoff

Geoff Cooper

Vice President, Research

Renewable Fuels Association

16024 Manchester Rd., Suite 222

Ellisville, MO 63011

Office: (636) 594-2284

Cell: (636) 399-4928

Attachment: www.arb.ca.gov/lists/lcfs09/449-19aug09_rfa_lcfs_comments.pdf

Original File Name: 19AUG09_RFA_LCFS Comments.pdf

Date and Time Comment Was Submitted: 2009-09-03 16:38:47

No Duplicates.

Comment 1 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Joel
Last Name: Velasco
Email Address: joel@unica.com.br
Affiliation: Brazilian Sugarcane Industry Association

Subject: Sugarcane Ethanol Pathway - Documents submitted to U.S. EPA
Comment:

The Brazilian Sugarcane Industry Association (UNICA) submits the attached comment letter on the U.S. Environmental Protection Agency's proposed rulemaking for the Renewable Fuel Standard program (the “RFS2 Proposed Rule”). See Notice of Proposed Rulemaking, Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program, 74 Fed. Reg. 24903 (May 26, 2009).

We believe the topics covered in UNICA's comments on the RFS2, which include recommendations related to direct lifecycle assessment and indirect land use change calculations, are directly relevant to the implementation of the LCFS.

Based on the conservative results of a Brazil-specific, partial-equilibrium land use model for the “indirect” emissions and the required emission credits from bioelectricity, the revised results for the sugarcane ethanol pathway should be revised to 82% and 73% for 100 year with a 2% discount rate and 30 years with no discount rate, respectively.

As a stakeholder, we look forward to continued efforts to implement the LCFS.

Sincerely,
/
Joel Velasco

_____

Joel Velasco
Chief Representative - North America
UNICA - Brazilian Sugarcane Industry Association
1711 N Street NW - First Floor
Washington, DC 20036-2801
Phone: +1 (202) 506-5299
Fax: +1 (202) 747-5836
www.unica.com.br

Attachment: www.arb.ca.gov/lists/lcfs09/450-unica_comments_on_rfs2.pdf

Original File Name: UNICA Comments on RFS2.pdf

Date and Time Comment Was Submitted: 2009-09-25 13:19:46

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Michael
Last Name: Bailey
Email Address: michaelebailey@cox.net
Affiliation: People First, California, Orange County

Subject: Second Notice Low Carbon Fuels
Comment:

These Second Notice changes to the Low Carbon Fuel Standards seem fair for the oil companies. They give the companies the necessary guidence they need to provide the lowest amount of carbon in their fuels as possible. These changes are important in clarifying the determination of the carbon levels of the different gasoline and diesel blends, the kinds of blends, and what form of transportation route the fuels will take to get into California if they are coming in from out of state. These changes are critical to the successful implementation of the Low Carbon Fuels requirements and should be approved. There also are checks built into the changes to make sure the standards are being followed. One is that the Executive Officer of the Board can check the product transfer document for average carbon intensity for auditing purposes or if a problem is suspected. And, two, the Executive Officer can the carbon intensity value if a determination is made the company didn't use the right value. Thank you. Michael E. Bailey, 25801 Marguerite Parkway, No. 103, Mission Viejo, CA 92692.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-09-27 18:50:22

No Duplicates.

Comment 3 for Low Carbon Fuel Standard (lcfs09) - 15-2.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 4 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Charles
Last Name: Alexander
Email Address: sushibar@excite.com
Affiliation: none

Subject: Differences of incentivisation between Table 5 on pg. 44 & Table 6 on pg.s 48-49
Comment:

Now, Table 6 on pages 48-49 of the Modified Proposed Regulation Order give carbon intensity values for corn ethanol that would lead some to believe some forms of it marginally superior to gasoline. By contrast, the selfsame table gives carbon values for electricity that are in excess of that for standard gasoline.

By contrast, Table 5 on page 44 gives an Energy Economy Ratio for electricity that is thrice that for all forms of ethanol.

Table 6 tends to favor some forms of corn ethanol over electricity.

Table 5 tends to favor electricity over all forms of ethanol.

Thus, there is a conflict of incentivisation between Tables 5 & 6. Given all that is known about the indirect land use effects of corn ethanol, especially those impacting global food commodity prices & the impact of that on the world's poor, the idea of incentivising corn ethanol, to any extent, would most certainly seem rather repugnant, one would think. Interestingly, the carbon intensity values given for electricity in Table 6 do not seem reflective of the carbon intensity of hydro-power.

One would well note that big agribusiness lobbying interests are simultaneously arguing for incentivising corn ethanol, which would most certainly impose inflationary pressures on global food commodity prices (thus increasing portfolio valuations for food commodity speculators) AND for the creation of a Peripheral Canal, which canal is manifestly designed to reduce hydro-electric generation capacity by increasing reservoir draw down rates at the same time that water is, by virtue of said canal, taken away from farms, ranches, towns, cities, etc., in all locations north of the Sacramento-San Joaquin Delta.

Why even give the appearance of giving in to THAT by at all incentivising corn ethanol, a fuel whose indirect land use effects on global food comodity prices & the debate over the Peripheral Canal, among other things, can be very disasterous, indeed? Incentivising corn ethanol is a very bad idea!!

Needless to say, the differences of incentivisation between Table 5 on page 44 & Table 6 on pages 48-49 need to be

properly reconciled. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2009-10-06 20:21:12

No Duplicates.

Comment 5 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Steven
Last Name: Shevick
Email Address: sshevick@cobaltbiofuels.com
Affiliation: Cobalt Biofuels

Subject: Comments on Proposed Regulation to Implement the LCFS
Comment:

October 6, 2009
Chairwoman Mary Nichols California Air Resources Board
1001 I Street Sacramento, California 95814
Re: "Proposed Regulation to Implement the LCFS" (Staff Report. Volume I, March 5. 2005) (the "Report")

Cobalt Technologies, Inc., based in Mountain View, California, is a private company that is leading the commercialization of biobutanol. We commend the Air Resources Board for adopting the Low Carbon Fuel Standard last April and taking on the many challenging issues surrounding the goal of reducing the carbon emissions of liquid transportation fuels.

Cobalt has developed innovative technology for the production of biobutanol from non-food, lignocellulosic material. Our process reduces lifecycle greenhouse gas emissions by more than 85% compared to gasoline. Our facilities combine low-cost feedstock pretreatment, a novel bioreactor design for high productivity fermentation and a high degree of energy integration, which, taken together, produce biobutanol at a cost that would be profitable at today's oil prices.

Our process is based on the use of non-food feedstock, initially woody biomass (consisting principally of thinning, mill residues and sustainable roundwood), to be followed by agricultural residue and dedicated low-input, high biomass energy crops. An important differentiating attribute of Cobalt's process is the ability of Clostridium to convert both hemicellulose-derived sugars and cellulose-derived sugars, while most ethanol fermentations are limited to conversion of monomeric glucose derived from hydrolysed cellulose. In addition, the lignin portion of the biomass is burned to provide energy for the production process, with excess renewable electricity exported to the grid.

Biobutanol is a high quality fuel and fuel blending component. As noted in the Report, biobutanol can be blended with both gasoline and ethanol. In addition, the Report notes that biobutanol has "a number of advantages over ethanol," including higher energy density, less corrosivity, less volatility, compatibility with the pipeline distribution system and the ability to be mixed in more flexible proportions.

The Report asserts that "the technology [for producing biobutanol] will not be fully commercialized until sometime after 2020." We believe that we are on track to produce commercial quantities of butanol by 2015 -in other words, on the same timetable, if not

sooner, than the large scale commercialization of cellulosic ethanol. We are currently in the process of scaling up our technology. We operate a pilot-scale fermentation system in Mountain View and a pilot pretreatment facility in Colorado. We are planning to build an integrated pilot facility during 2010 and complete our first commercial-scale plant in 2013. We are currently selecting sites for this plant, and among the most attractive candidates are sites in several counties in northern California with high availability of woody biomass (specifics have been omitted for trade secret purposes). Once this facility is operational, our ability to develop multiple commercial-scale facilities simultaneously, and to license the technology to independent project developers, would be limited only by the availability of capital.

We understand that prior to selling biobutanol blends in California a multimedia evaluation will be required, which can be both expensive and time-consuming. It is our understanding that another potential producer of biobutanol has already initiated such an evaluation, and as test quantities of our biobutanol become available we would expect to work closely with ARB (and, to the extent feasible, with other producers) to ensure that all applicable requirements are met.

In addition, we understand that to be officially accorded a carbon-footprint reduction for the LCFS, Cobalt's fuel will be subjected to the California-Modified GREET Pathway for Transportation Fuels. We have completed our own life cycle analysis, based on GREET but supplemented by specific analysis of our process where GREET data are lacking or inapplicable, and would be pleased to share this analysis with the ARB staff. We are aware of the Argonne National Lab corn-to-butanol GREET analysis; however, the differences conferred by the two processes indicated to us that we should generate our own pathway model.
We also understand that one of the most challenging components in developing fuel pathways is the assessment of indirect land use changes (ILUC), particularly in relation to the use of food-based feedstock. One of the advantages of using locally-sourced woody biomass as a feedstock is that ILUC are only a minor factor under almost any methodology. We are well aware of the controversy surrounding the methodology for calculating ILUC and agree with the ARB's approach of establishing an Expert Workgroup to assist the Board in refining and improving the methodology for analyzing land use and indirect effects from the production of transportation fuels.

We look forward to engaging with ARB staff as we move toward the development of a fuel pathway for biobutanol from lignocellulosic feedstocks. We are confident that Cobalt's proprietary technologies will make possible a new generation of cost-effective and domestically-produced biofuels that will play a significant role in achieving the Low Carbon Fuel Standard and help maintain California as the hub of green technology innovation.

Sincerely,

Rick Wilson, CEO
Cobalt Biofuels

1 The Report also states that "staff is not aware of any facility producing biobutanol on a commercial basis." While this is true in the United States, commercial facilities for the production of

biobutanol, based on the ABE fermentation method, from foodstocks, are in intermittent operation in Russia and China, depending on market prices.

Attachment: www.arb.ca.gov/lists/lcfs09/455-10.6.09_correspondence_to_chairman_nichols.pdf

Original File Name: 10.6.09 Correspondence to Chairman Nichols.pdf

Date and Time Comment Was Submitted: 2009-10-07 13:59:58

No Duplicates.

Comment 6 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Erik
Last Name: Johnson
Email Address: ejohnson@canopyprospecting.com
Affiliation:

Subject: Comments on Ethanol Dehydration
Comment:

```
Dear Sirs:

Please find Canopy Prospecting, Inc. and Trinidad Dehydration
Company Limited's comments on LCFS attached.

Best regards,

Canopy Prospecting, Inc.
Trinidad Dehydration Company Limited (TDCL)

by: Erik Johnson
```

Attachment: www.arb.ca.gov/lists/lcfs09/456-microsoft_word_-_canopy_tdcl_comments_to_carb_final_2009-10-07.pdf

Original File Name: Microsoft Word - Canopy TDCL Comments to CARB FINAL 2009-10-07.pdf

Date and Time Comment Was Submitted: 2009-10-07 14:26:34

No Duplicates.

Comment 7 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Naomi
Last Name: Melver
Email Address: nmelver@gmail.com
Affiliation:

Subject: Comments on 2nd 15-day notice of modified text of LCFS
Comment:

October 8, 2009

Mary Nichols, Chairman
Board Members
California Air Resources Board
1001 I Street
Sacramento, CA 95812

RE: Comments on Low-Carbon-Fuel-Standard Regulation

Dear Chairman Nichols and Board Members,

In response to the 2nd 15-day Notice of Modified Text for the LCFS, please consider the following issues:

1) By “averaging” fuel pathways and GHG emissions from different processes used to develop, process and transport the same type of fuel (e.g. “Corn Ethanol Midwest; Wet Mill, 100% NG”), a fuel provider whose emissions are greater than the average will benefit from the assumptions. A producer of corn ethanol could benefit from the averaging of emissions and processes having no cause to challenge the assumption in their favor. Whereas fuel providers with less emissions than the average can challenge the assumptions under the 2B option and the net effect is worse than average. A provider of Brazilian sugarcane ethanol could use mechanized harvesting and benefit from that fuel pathway’s assumptions, but in actuality only use mechanized harvesting for 10% of the crop and escape verification and enforcement protocols due to California’s lack of international jurisdiction. Moreover, the claimed emissions reductions would not be “real” as legally required.

2) By modifying the definition of “material change” to an approved physical pathway to only include changes in the basic mode of transportation for the fuel, ARB may miss significant changes in GHG emissions from other changed processes, such as biorefineries switching from coal to other energy sources such as biomass incineration that may release ~50% more CO2 emissions than coal (see the attached report by the Massachusetts Environmental Energy Alliance.) Changes in other production processes and technology, updated science, etc., warrants a broader definition of “material change” to include all changes that will result in an increase of GHG emissions in order for emissions reductions to be real, enforceable, quantifiable, and permanent as legally required.

Because biomass incineration can emit ~50% more CO2 emissions than coal, ARB should not develop a fuel pathway nor encourage forest biomass as an energy source as alluded to in the LCFS Update released on October 6, 2009.

Thank you for your consideration.

Sincerely,

Naomi Melver

Attachment: www.arb.ca.gov/lists/lcfs09/457-energy_--_biomass__fact_sheet_from_mass_1_._enviro_energy_alliance__june_2__2009.pdf

Original File Name: ENERGY -- BIOMASS, FACT SHEET FROM MASS[1]. ENVIRO ENERGY ALLIANCE, JUNE 2, 2009.pdf

Date and Time Comment Was Submitted: 2009-10-08 02:21:05

No Duplicates.

Comment 8 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: H. Daniel
Last Name: Sinks
Email Address: h.daniel.sinks@conocophillips.com
Affiliation: ConocoPhillips

Subject: Comments Regarding LCFS - 9/23/09 Proposed Modifications
Comment:

```
Thankk you for the opportunity to comment regarding the LCFS
regulation.

Our comments are attached.
```

Attachment: www.arb.ca.gov/lists/lcfs09/458-cop_lcfs_comments_10_08_09.pdf

Original File Name: COP LCFS Comments 10_08_09.pdf

Date and Time Comment Was Submitted: 2009-10-08 09:48:35

No Duplicates.

Comment 9 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Jack
Last Name: Bean
Email Address: jbean@tsocorp.com
Affiliation: Tesoro Corporation

Subject: LCFS
Comment:

```
Tesoro Corporation Comments on the California Air Resources Board's
Modified Text and Additional Documents for the Low Carbon Fuel
Standard
```

Attachment: www.arb.ca.gov/lists/lcfs09/459-tesoro_oct8__3_.doc

Original File Name: TESORO oct8 (3).doc

Date and Time Comment Was Submitted: 2009-10-08 11:41:21

No Duplicates.

Comment 10 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Mark
Last Name: Stowers
Email Address: mark.stowers@poet.com
Affiliation: POET LLC

Subject: LCFS - POET 2009 Oct 8 Comments
Comment:

```
LCFS - POET 2009 Oct 8 Comments
```

Attachment: www.arb.ca.gov/lists/lcfs09/460-poet_2009oct8_comments.zip

Original File Name: POET_2009Oct8_Comments.zip

Date and Time Comment Was Submitted: 2009-10-08 13:28:07

No Duplicates.

Comment 11 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Stephanie
Last Name: Batchelor
Email Address: sbatchelor@bio.org
Affiliation:

Subject: LCFS modified rulemaking 15 day package
Comment:

```
Please accept our comments on CARB's most recent 15 day package to
the LCFS rulemaking.
```

Attachment: www.arb.ca.gov/lists/lcfs09/461-bio_carb_comments_oct_8_2009.pdf

Original File Name: BIO CARB Comments Oct 8 2009.pdf

Date and Time Comment Was Submitted: 2009-10-08 13:34:00

No Duplicates.

Comment 12 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Tom
Last Name: Buis
Email Address: tbuis@growthenergy.org
Affiliation: Growth Energy

Subject: LCFS - Growth Energy 2009 Oct 8 Comments
Comment:

```
LCFS - Growth Energy 2009 Oct 8 Comments
```

Attachment: www.arb.ca.gov/lists/lcfs09/462-growth_energy_2009oct8_comments.zip

Original File Name: Growth_Energy_2009Oct8_Comments.zip

Date and Time Comment Was Submitted: 2009-10-08 13:34:13

No Duplicates.

Comment 13 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Cal
Last Name: Hodge
Email Address: A2ndOpinionInc@aol.com
Affiliation: A 2nd Opinion, Inc. On behalf of Neste

Subject: Comments on 2nd 15 day notice LCFS regulation
Comment:

October 8, 2009

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

Electronic submittal:
http://www.arb.ca.gov/lispub/comm/bclist.php
Comments on: Second Notice of Public Availability of Modified Text and Availability of Additional Documents and Information

Thank you for incorporating some of A 2nd Opinion, Inc.'s (A2O) earlier comments into the Low Carbon Fuel Standard (LCFS) regulations. However, there are some remaining issues and our intent is that the following comments will result in a better regulation.

§95480.1(c)(2):
This section exempts Liquefied Petroleum Gas (LPG or "propane") from the LCFS regulation. This exemption creates a problem for the renewable propane that is coproduced with renewable diesel. It denies this perfectly good low carbon fuel a role in the LCFS. To resolve this problem you could keep LPG in the LCFS. But doing so would create a lot of paperwork and record keeping to track a relatively small volume of renewable fuel use in a relatively small market segment. Even if you acknowledge that renewable propane and fossil propane are chemically identical and treat renewable propane like renewable electricity (the renewable producer mixes the renewable product with non-renewable product and then sells the right to the buyer to call his purchase of fungible product renewable) there would be a lot of recordkeeping for no benefit. (The carbon reduction occurs regardless of whether the accounting is difficult or easy.) It would be much more efficient to modify the renewable diesel life cycle analyses (LCA) to allow the net renewable propane energy and carbon to be credited to the renewable diesel production and to leave the propane exemption in §95480.1(c)(2)in place.

§95485(a)(1) Table 4. Biomass-based diesel has various per gallon energy contents ranging from about 125 to 132 MJ/gal. How can CARB use one conversion factor, 126.13 MJ/gal, to convert all gallons of biomass-based diesel to MJ? Also, biodiesel tends to be in the low end of the range while renewable diesel is in the high end. If there is a compelling reason to standardize the conversion factor, how about using one factor for biodiesel and another for renewable diesel?

§95486(b)(1)(O) The pathway "Stationary Source Division, Air Resources Board (September 23, 2009, v.12), “Detailed

California-Modified GREET Pathway for Co-Processed Renewable Diesel Produced in California from Tallow (U.S. Sourced);" is not ready to become law.

Transportation assumption

The assumption that co-processed renewable diesel is distributed by truck is simply false. Co-processed renewable diesel will not be separated from the ULSD that it is processed with. Therefore its distribution energy and carbon numbers should be identical to ULSD.

Transportation & Distribution

	Energy, Btu/mmBtu	Emissions, gCO2e/MJ
Renewable Diesel	8662	0.66
ULSD	4721	0.33
Difference	3941	0.33

Admittedly this is not a big error, but methodology should match reality.

Separately processed renewable diesel will also be blended with ULSD prior to distribution because that is the optimum blending location. If the renewable diesel production facility is adjacent to a refinery its distribution energy and emissions will be identical to ULSD. If the renewable diesel facility is not adjacent to a California refinery then there should and will be energy and emissions factors associated with delivering it to the refinery.

Tank to wheels emissions

Another small but needed for reality adjustment involves the tank to wheels emissions. The Biodiesel Renewable Diesel Research Program is confirming the renewable diesel reduces the tank to wheel emissions relative to CARB ULSD. This adjustment only amounts to a little over a tenth of a gCO2e/MJ. Consistent application of the adjustment will also increase tank to wheels emissions for biodiesel. But, we really must make methodology match reality because the integrity of the LCFS depends on paying attention to the details of reality.

Co-product credits

§95480.1(c)(2) which exempts propane for the LCFS creates a dilemma about what to do with and how to account for the renewable propane that is co-produced with renewable diesel.

Renewable propane is a low carbon fuel that belongs in the LCFS. It takes less energy to produce than it gives back. The fossil carbon emitted during its production is less than the fossil carbon displaced when it is burned or used as a hydrogen plant feedstock. When renewable diesel is made from animal fats or vegetable oils its production is unavoidable. Whether the biomass is co-processed with petroleum diesel or processed in a separate renewable diesel production facility the renewable propane is going to displace fossil propane. We have a choice. We can either simply take net energy and CO2 credits similar to the bagasse credits taken in the "Detailed California-Modified GREET Pathway for Brazilian Sugarcane Ethanol;" or create complex regulations and accounting procedures to track it. Let's look at some examples of what might be needed.

If the renewable propane is used as renewable diesel process plant fuel the bagasse like credit is obviously the proper path. If it is used as hydrogen plant feed in a hydrogen plant that is dedicated to the renewable diesel plant again the bagasse like credit is obviously the proper path. But, if the low carbon

hydrogen produced from the renewable propane is shared with either an adjacent refinery for separate processed renewable diesel or the host refinery for co-processed renewable diesel things get messy fast. We now need to account for and track low carbon gasoline and diesel fuel that was desulfurized using some of the low carbon hydrogen throughout the distribution system. Similarly if some of the renewable propane ends up in a refinery's fuel gas system we also have to track low carbon gasoline and diesel fuel. If it were recovered and sold as LPG, we must keep LPG in the LCFS and set up tracking methodology and regulations. Rather than go through this it would be better if the renewable diesel pathways used a coproduced energy/CO2 credit model like used in the sugarcane to ethanol pathway rather than the co-product allocation model used for biodiesel and corn ethanol. This allows us to greatly simplify both the LCFS regulations and the LCA pathway for renewable diesel made from animal fats and/or vegetable oils.

The LCA pathway can be simplified by acknowledging that renewable diesel production processes are really just renewable fuel production processes. Renewable diesel can simply bear all of the energy and fossil carbon inputs to the pathway less relatively small renewable propane energy and CO2 credits. We do not have to wonder if we should allocate based upon weight, value or energy content. We simply let the desired product carry the load and take credits for the renewable fuel byproducts just like the bagasse energy and CO2 credits taken in the "Detailed California-Modified GREET Pathway for Brazilian Sugar Cane Ethanol". This methodology is simpler and more robust than the pathways that have non energy co-products and therefore is the appropriate pathway for this product.

The LCFS regulations are greatly simplified because the renewable propane does not have to be accounted for after the credits are taken in the pathway. CARB does not have to concern itself with accounting for low carbon hydrogen produced from renewable propane. CARB does not have to account for low carbon gasoline and diesel fuel produced in refineries that use low carbon hydrogen for desulfurization processes or burn the renewable propane in their fuel systems. CARB can continue to exclude propane from the LCFS.

In the interest of developing simpler regulations and LCA's that more closely model reality CARB should revise all renewable diesel pathways from animal fats and/or vegetable oils before they become law.

§95487(c)(3) and §95487(c)(3)(B) continue to use the term 'biomass-based diesel". Because renewable diesel is both a diesel fuel as defined in 13 CCR §2281(b) which is exempt from the multimedia requirement under §95487(c)(2)(B) and a biomass-based diesel fuel as defined in §95481 (a)(9), the term "'biomass-based diesel" in §95487(c)(3) and §95487(c)(3)(B) should be edited to read "biodiesel" and the term "renewable diesel," should be inserted in §95487(c)(2)(B) between "...diesel fuel," and "E100,..."
Do not hesitate to call me if you have questions.
For A 2nd Opinion, Inc on behalf of its client Neste Oil.

Cal Hodge
Because some formatting was lost when copying comments into submission form a signed PDF file is also being attached.

Attachment: www.arb.ca.gov/lists/lcfs09/463-a2o_comments_re_2nd_15_day_lcfs_mod_textsigned.pdf

Original File Name: A2O Comments re 2nd 15 day LCFS mod textsigned.pdf

Date and Time Comment Was Submitted: 2009-10-08 13:47:05

No Duplicates.

Comment 14 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Claire
Last Name: van Zuiden
Email Address: claire@calstrat.com
Affiliation:

Subject: 11 Good Energy Comments to LCFS
Comment:

```
To whom it may concern,

Attached is a letter from 11 Good Energy regarding the
implementation of the Low Carbon Fuel Standard.

Sincerely,
Claire van Zuiden
California Strategies
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Attachment: www.arb.ca.gov/lists/lcfs09/464-11_good_energy_lcfs_comment_letter.pdf

Original File Name: 11 Good Energy LCFS Comment Letter.pdf

Date and Time Comment Was Submitted: 2009-10-08 15:07:44

No Duplicates.

Comment 15 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: James P.
Last Name: Halloran
Email Address: JPH@CAT.COM
Affiliation: Caterpillar Inc.

Subject: LCFS
Comment:

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Attached are the comments of Caterpillar Inc. on the current draft
of the LCFS.
```

Attachment: www.arb.ca.gov/lists/lcfs09/465-cat_comments.doc

Original File Name: Cat Comments.doc

Date and Time Comment Was Submitted: 2009-10-08 15:54:22

No Duplicates.

Comment 16 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Gina
Last Name: Grey
Email Address: gina@wspa.org
Affiliation:

Subject: WSPA Comments on Second 15 Day LCFS Package
Comment:

```
Attached, please find comments from the Western States Petroleum
Association relative to CARB's second 15 day LCFS modified
regulatory text.
```

Attachment: www.arb.ca.gov/lists/lcfs09/466-wspacomments2nd15dayarblcfs.100809f.doc

Original File Name: WSPAcomments2nd15dayARBLCFS.100809f.doc

Date and Time Comment Was Submitted: 2009-10-08 15:59:59

No Duplicates.

Comment 17 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Pete
Last Name: Price
Email Address: pete@pricecon.com
Affiliation: CA Natural Gas Vehicle Coalition

Subject: Low Carbon Fuel Standard, Second 15-Day Comments
Comment:

```
Please accept the attached LCFS comments on behalf of the CA
Natural Gas Vehicle Coalition.
```

Attachment: www.arb.ca.gov/lists/lcfs09/467-lcfs--comments_to_arb_10-8-09_final.doc

Original File Name: lcfs--comments to arb 10-8-09 final.doc

Date and Time Comment Was Submitted: 2009-10-08 16:12:07

No Duplicates.

Comment 18 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Joel
Last Name: Velasco
Email Address: joel@unica.com.br
Affiliation: Brazilian Sugarcane Industry Association

Subject: 2nd 15-day Comment Notice
Comment:

The Brazilian Sugarcane Industry Association (UNICA) welcomes the opportunity to briefly comment in support of the proposed modifications to the regulatory text and additional information available for California's proposed Low Carbon Fuel Standard (LCFS).

These comments expand on our previous correspondence on the lifecycle calculations of sugarcane ethanol submitted by letters dated April 16, August 19, and September 25, 2009. UNICA supports the proposed modifications and recommends they be finalized at the earliest opportunity given the thorough opportunities for public comment and review provided to date.

Sincerely,

Joel Velasco

Joel Velasco, Chief Representative - North America
UNICA - Brazilian Sugarcane Industry Association
1711 N Street NW - First Floor
Washington, DC 20036-2801
Phone: +1 (202) 506-5299
Fax: +1 (202) 747-5836
joel@unica.com.br

Attachment: www.arb.ca.gov/lists/lcfs09/468-lcfs_-_second_15_day_comments.pdf

Original File Name: LCFS - Second 15 Day Comments.pdf

Date and Time Comment Was Submitted: 2009-10-08 16:24:43

No Duplicates.

Comment 19 for Low Carbon Fuel Standard (lcfs09) - 15-2.

First Name: Michael
Last Name: Murray
Email Address: mmurray@sempra.com
Affiliation: Sempra Energy

Subject: LCFS Second 15-Day Comment
Comment:

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Please see Sempra Energy comments attached.
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Attachment: www.arb.ca.gov/lists/lcfs09/469-se_commts_lcfs_second_15_day_notice_10_8_9_doc.pdf

Original File Name: SE Commts LCFS Second 15 Day Notice 10 8 9 doc.pdf

Date and Time Comment Was Submitted: 2009-10-08 16:05:06

No Duplicates.

Comment 1 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Darryl
Last Name: Mueller
Email Address: dmc@darrylmueller.com
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

The state of concern here is that how much law has been made with false information. Just in case you haven't heard about University of East Anglia 64 mg emails of information about climate change or global warming from the scientific community were “faked” to make the world think that global warming” is happening when in fact it is not. The fact you are continuing with plans to shrink carbon foot print is a huge concern. Given the lack of money and the fact that California is itself is bankrupt why would you not consider not to go forward with any more CARB programs until the need can actually be proven. Case in point is the on road truck regulation that used false data was known, and yet the program was put in place. "Mary Nichols knew about this when she presided over the public hearings, and she chose not to disclose it. This is a damning indictment of CARB’s process." Pushing in programs that take away our God given right to earn a living must stop!

I have great concern about any regulation CARB comes up with will likely wreck what we in the bio-diesel production have done for the environment. Case in point we now have to have pay $400.00 per year for a license to pick up waste vegetable oil was done to make money and there is no need. All regulations end in for fees and forms and a huge regulatory agency to manage it. Instead of encouraging business why is the State and Governor continuing to discourage business.

Since I have had “Asthma” since birth or 64 years I feel that I am as much an expert as any of the groups that profit from asthma. I have lived with diesel engine the fumes for over 50 years. My “Asthma” has never been affected by diesel exhaust. A simple act of changing a bus exhaust to vertical diesel or gas engine would greatly improve the air that people breath and at very low cost.

Business closures and unemployment is still on the increase. The S.F. East Bay Alameda & Contra Costa County's '08 7,887 bankruptcies in '09 12,564 bankruptcies or 59% higher. And state wide the people and business are leaving the state, high taxes and fees on business contribute to the exit. We cannot continue to loose the tax base AB 32 and Carbon Trading and many more programs with fees and fines does not help the trucking, construction, transportation and all other things that consume energy. We are getting choked by the onslaught of regulations.

I include the following 3 articles to submit. I hope you will read and rethink what you intend to do at CARB.

Article 1

From The Telegraf.com.uk 11/23/09
http://www.telegraph.co.uk/earth/environment/globalwarming/6636563/University-of-East-Anglia-emails-the-most-contentious-quotes.html

University of East Anglia emails: the most contentious quotes
Here are a selection of quotes from the emails stolen from computers at the University of East Anglia. Many involve Phil Jones, head of the university's Climatic Research Unit.

Published: 2:56PM GMT 23 Nov 2009

From: Phil Jones. To: Many. Nov 16, 1999
"I've just completed Mike's Nature [the science journal] trick of adding in the real temps to each series for the last 20 years (ie, from 1981 onwards) and from 1961 for Keith's to hide the decline."

Critics cite this as evidence that data was manipulated to mask the fact that global temperatures are falling. Prof Jones claims the meaning of "trick" has been misinterpreted

Related Articles

* Scientist at centre of leaked email row stands by his findings
* Climategate: Phil Jones accused of error of judgment
* Is climate change debate misleading?
* Climate change scientists face calls for public inquiry over data manipulation claims
* Ask Rick 046: DVD-RAM Troubles, DVD to MP3, Vista Mail Defailts, Nagging Office Licence, Save CHanges in Word, Disable Shift
* Ask Rick 045: Freeware Security, Ink Stinks, Mobile Broadband Go-Slow, Mail Fonts, Digital Line Detect Error

From Phil Jones To: Michael Mann (Pennsylvania State University). July 8, 2004
"I can't see either of these papers being in the next IPCC report. Kevin and I will keep them out somehow — even if we have to redefine what the peer-review literature is!"

The IPCC is the UN body charged with monitoring climate change. The scientists did not want it to consider studies that challenge the view that global warming is genuine and man-made.

From: Kevin Trenberth (US National Center for Atmospheric Research). To: Michael Mann. Oct 12, 2009
"The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't... Our observing system is inadequate"

Prof Trenberth appears to accept a key argument of global warming sceptics - that there is no evidence temperatures have increased over the past 10 years.

From: Phil Jones. To: Many. March 11, 2003
“I will be emailing the journal to tell them I’m having nothing more to do with it until they rid themselves of this troublesome editor.”

Prof Jones appears to be lobbying for the dismissal of the editor of Climate Research, a scientific journal that published papers downplaying climate change.

From Phil Jones. To: Michael Mann. Date: May 29, 2008
"Can you delete any emails you may have had with Keith re AR4? Keith will do likewise."

Climate change sceptics tried to use Freedom of Information laws to obtain raw climate data submitted to an IPCC report known as AR4. The scientists did not want their email exchanges about the data to be made public.

From: Michael Mann. To: Phil Jones and Gabi Hegerl (University of Edinburgh). Date: Aug 10, 2004
"Phil and I are likely to have to respond to more crap criticisms from the idiots in the near future."

The scientists make no attempt to hide their disdain for climate change sceptics who request more information about their work.

Article 2

Climategate

Written by William F. Jasper
Monday, 23 November 2009 15:30
http://www.thenewamerican.com/index.php/tech-mainmenu-30/environment/2383-climategate-e-mail-scandal-could-melt-copenhagen-plans

climate gateAs was reported here previously, the release of thousands of e-mails and documents from a climate research center threatens to expose some of the biggest scientific names in the global warming debate to serious charges of fraud, unethical attacks on colleagues, censorship of opposing viewpoints, and possible criminal destruction and withholding of evidence.

Michael Mann, James Hansen, Phil Jones, Michael Oppenheimer, Stephen Schneider, Kevin Trenberth — these are but a few of the "big guns" of global warming alarmism who are unfavorably exposed in the documents that were posted on the Internet by unknown hackers who penetrated the computer system of the Climate Research Unit (CRU) at Britain's University of East Anglia.

Phil Jones, the director of the CRU, especially comes off very poorly in the newly revealed documents. In an e-mail of January 29, 2004 to Michael Mann, Jones refers to the recent death of global warming critic John L. Daly with this churlish comment: "In an odd way this is cheering news!" In the same e-mail, Jones then suggests to Mann that he has obtained legal advice that he does not have to comply with Freedom Of Information (FOI) requests from other scientists to release data and codes underlying his research claims. Devising ways to delay and deny FOI requests is the subject of additional e-mails, such as one from Jones to Gavin Schmidt (with a copy to Michael Mann) of August 20, 2009, arguing that the data from the UN's Intergovernmental Panel on Climate Change (IPCC) is exempt from these requests. Jones writes:

The FOI line we're all using is this. IPCC is exempt from any countries FOI — the skeptics have been told this.

The IPCC's reports, of course, have been presented as the "last word" on climate science by Al Gore and most of the major media. Like all other UN agencies and programs, the IPCC claims to adhere to the highest standards of "transparency." However, many distinguished scientists, including former IPCC scientists, have objected to the IPCC's opaque process and criticize the unwillingness of the IPCC to release data it cites as the basis for its extravagant claims.

Some of the e-mails seem to confirm concerns that Jones, Mann, et al, have destroyed data that could expose their fraudulent methods. That appears to be the case here, where Jones suggests to Mann that he delete certain e-mails that apparently dealt with the IPCC Fourth Assessment Report (AR4), which was released in 2007. He also suggests they get other colleagues to delete related material.   In another e-mail to Mann, Jones may have set himself up for legal prosecution for attempting to thwart the UK's newly passed FOI law. Jones says, "I think I'll delete the file rather than send [it] to anyone," and "We also have a data protection act, which I will hide behind."

"Hockey Sticks" and Hokey Data

Michael E. Mann, director of the Earth System Science Center (ESSC) at Pennsylvania State University, is the lead author of the now-discredited "Hockey Stick" graph used by the IPCC and Al Gore (most notably in his documentary, An Inconvenient Truth) to "prove" man-made, or anthropogenic, global warming (AGW).   In a particularly damning e-mail exchange from 2003, Mann and Jones discuss a scheme for getting rid of Hans Von Storch, the editor of the journal Climate Research, for publishing the contrary research of distinguished fellow scientists.*

This theme of getting rid of Von Storch appears again in other e-mails, such as this exchange between climate alarmists Tom Wigley and Timothy Carter (with a copy to Phil Jones).   And Hans Von Storch is not the only professional targeted by the climate activists, who appear to have taken political correctness to new levels in silencing those in the scientific community that voice disagreement with their apocalyptic scenarios. Among other examples is an October 12, 2009 e-mail exchange among Stephen Schneider, Michael Mann, Kevin Trenbreth, and one of Schneider's students. The student brings to their attention a BBC report that deviates from the BBC's usual The-Sky-Is-Falling! AGW propaganda. The student writes:

Paul Hudson, BBC's reporter on climate change, on Friday wrote that there's been no warming since 1998, and that pacific oscillations will force cooling for the next 20-30 years. It is not outrageously biased in presentation as are other skeptics' views.

The BBC report, in this case, was on the mark, as most scientists now agree (and even many of the alarmists now admit — though some still try to explain away) that global temperatures actually have cooled for the past decade. (See, for example here, here, and here.) Stephen H. Schneider, professor of environmental studies at Woods Institute for the Environment, passes on the student's query, asking his colleagues if they would like to try explaining "the

past 10 years of global mean temperature trend stasis," which he recognizes as a problem in terms of keeping the public panicked over climate change.

Yes, this is the same Stephen Schneider who prior to 1978 was proclaiming that man-made CO2 emissions were going to drive planet Earth into global cooling and a new Ice Age. It is also the same Stephen Schneider who admitted in a 1996 paper that "scientists" sometimes have to use scare tactics, exaggerations, and suppression of doubts and contrary evidence in order to win public support for desired political policies. He said winning support required "loads of media coverage," and to obtain that scientists would have to "offer up scary scenarios." Here is the full quote:

On the one hand, as scientists we are ethically bound to the  scientific method, in effect promising to tell the truth, the whole  truth, and nothing but — which means that we must include all the  doubts, the caveats, the ifs, ands, and buts. On the other hand, we  are not just scientists but human beings as well. And like most people  we'd like to see the world a better place, which in this context  translates into our working to reduce the risk of potentially  disastrous climatic change. To do that we need to get some broad-based support, to capture the public's imagination. That, of course, entails getting  loads of media coverage. So we have to offer up scary scenarios, make  simplified, dramatic statements, and make little mention of any doubts  we might have.... Each of us has to decide what the right balance is between being effective and being honest.

Michael Mann responds to Schneider's October 12, 2009 e-mail indicating that he will contact the Met Office (the British meteorological agency) and the BBC about the Paul Hudson report, which was causing the alarmists so much angst. Based on the other e-mails, as well as on what has been previously reported elsewhere about other retaliatory attacks, it may not be far-fetched to infer that Mann was intimating that he would have pressure applied to Hudson to toe the AGW line.

An amusing admission against interest in the above exchange (October 12, 2009) is this comment by Kevin Trenberth, who can't figure out what to say about the historic low temperatures:

Hi all

Well I have my own article on where the heck is global warming? We are asking that here in Boulder where we have broken records the past two days for the coldest days on record. We had 4 inches of snow. The high the last 2 days was below 30F and the normal is 69F, and it smashed the previous records for these days by 10F. The low was about 18F and also a record low, well below the previous record low. This is January weather (see the Rockies baseball playoff game was canceled on saturday and then played last night in below freezing weather).

Trenberth then goes on to admit: "The fact is that we can't account for the lack of warming at the moment and it is a travesty that we can't."   However, the alarmists' admitted inability to explain away this enormous fact has not lessened their certitude nor dampened their zeal for implementing a planetary climate regime.

The release of the e-mails has come at an inopportune time for many of the "experts" who may be appearing at — or whose scientific research is prominently tied to — the fast approaching United Nations climate change summit in Copenhagen, Denmark. Claiming that man-made emissions are causing calamitous global warming, the United Nations Framework Convention on Climate Change (UNFCCC) to be voted on in Copenhagen will call for global governmental mandates to regulate and tax all human activities.

Public awareness of the content of the CRU e-mails could significantly undercut support for the UNFCCC. Thus, many of the media organs that have been most vociferous in promoting the global warming hype have been curiously subdued in reporting on the recent "Climategate" scandal. The University of East Anglia said that the purloined e-mails and documents had been selectively leaked to undermine "the strong consensus that human activity is affecting the world's climate in ways that are potentially dangerous." And, it seems, much of the media are content to go with that spin.

Many of the scientists in the "realist" or "skeptic" community, including those who have borne the brunt of attacks by Mann, Jones, et al, have not weighed in on the matter yet. Many voices on the realist/skeptic blogs and web sites expressed the need for caution, suggesting the e-mail releases could even be a hoax, or that false e-mails and documents could be mixed in with those that are genuine. That is a possibility. However, according to reports in the New York Times and elsewhere, some of the emails have been confirmed as genuine by the named authors. It may be some time before all of this massive trove of documents is vetted and certified. In the meantime, one of the websites that has sifted through a significant number of the emails and provided helpful summaries of their content, can be accessed here.

* Those scientists mentioned by name are: Willie Soon, a physicist at the Solar and Stellar Physics Division of the Harvard-Smithsonian Center for Astrophysics and an astronomer at the Mount Wilson Observatory; Sallie Baliunas, an astrophysicist at the Harvard-Smithsonian Center for Astrophysics in the Solar, Stellar, and Planetary Sciences Division and Senior Scientist at the George C. Marshall Institute; Patrick Michaels, retired Research Professor of Environmental Sciences from the University of Virginia and former state climatologist for Virginia; and William Gray, a pioneer in hurricane forecasting, Emeritus Professor of Atmospheric Science at Colorado State University (CSU), and head of the Tropical Meteorology Project at CSU.

Article 3
http://www.landlinemag.com/todays_news/Daily/2009/Dec09/113009/120309-02.htm
December 3, 2009

Research fraud spurs CARB member to call for truck rule suspension

It appears Christmas may be coming early for truckers this year.

A brewing scandal at the California Air Resources Board has resulted in one CARB board member calling for the suspension of CARB’s most expensive truck rule to date.

Written under the authority A.B. 32 – the 2006 law that addresses

global warming, the Truck and Bus rule requires trucking fleets to acquire diesel particulate matter filters and upgrade their truck engines beginning in 2012.Most small trucking businesses – including fleets of one to three trucks –will be exempt until 2014.

Numerous California and national news organizations reported this week that several top CARB officials, including CARB Chairman Mary Nichols, knew a year ago that the team leader and researcher on diesel pollution fatalities was a fraud and hadn't earned the doctorate degree he claimed on his resume.

The revelation came at least as early as December 2008, the day before CARB considered and approved its controversial Truck and Bus rule. The rule, which CARB research then estimated would cost the transportation industry $6 billion to $10 billion to comply with, requires diesel particulate filters and new engines for commercial trucks and buses on California roads and highways.

According to emails posted at www.killcarb.org, a CARB board member unearthed the scandal that top agency officials had managed to keep quiet for more than a year by asking Nichols and other CARB board members about the research and qualifications of agency employee Hien T. Tran.

In e-mails sent between CARB board members, Nichols and a head of the California EPA, Tran was revealed to not have a degree. The agency and state officials defended him although he was later disciplined internally.

CARB's Truck and Bus rule was approved partly because of Tran's research in the report, "Methodology for Estimating Premature Death Associated with Long-Term Exposure to Find Airborne Particulate matter in California." In the report, Tran falsely claimed that he had a doctorate degree in statistics from The University of California at Davis.

Tran purportedly confessed on Dec. 10, 2008, one day before CARB's December board meeting began, and two days before the board approved its most expensive rule yet.

"I believe the legitimacy of the (truck and bus rule) vote to be in question," wrote CARB Board member John Telles, a cardiologist, almost a year later in a Nov. 16 letter to CARB's chief counsel.

Later, he said a "fundamental violation of procedure," combined with the agency's failure to reveal that information to the board before it voted to approve the truck and bus measure "not only casts doubt upon the legitimacy of the Truck (and Bus) rule, but also upon the legitimacy of CARB itself."

Telles' words have caused headlines nationally, and appear to be particularly damning to the air quality agency, which prides itself on being more restrictive than any such agency in the world. CARB is scheduled to approve eight different research projects next week that carry a combined $2.4 million price tag.

So far in 2009, CARB has collected $9.7 million in total fines, according to press releases from January to October. The figures were calculated by www.killcarb.org.

OOIDA Director of Regulatory Affairs Joe Rajkovacz, who has

attended CARB board meetings, said the recent controversy should make California lawmakers question the power they've given the air quality agency.

"What else have they hidden?" Rajkovacz said. "Mary Nichols knew about this when she presided over the public hearings, and she chose not to disclose it. This is a damning indictment of CARB's process. The board should have delayed the Truck and Bus rulemaking until they evaluated the data by real professionals."

The December 2008 CARB Board meeting, which lasted nearly 12 hours, included several hours of discussion between agency staffers and board members regarding the effect the Truck and Bus rule would have on small businesses, particularly in trucking.

Eventually, the board approved the rule.

"It turned out the public hearing on the Truck and Bus rule was nothing but a dog and pony show," Rajkovacz said after finding out about the questionable research.

"You cannot defend data that was assembled by an ethically challenged individual. People have been defending the statistics by saying it was peer reviewed – well, big deal. The individual who compiled the data did not possess the academic credentials claimed. Tran didn't, and CARB's top executives defended him.

"Mary Nichols didn't have the courage to even bring up this information during last year's hearing."

CARB spokesman Leo Kay told Land Line Now's Reed Black Thursday that CARB would probably address the Tran situation and a potential change in the Truck and Bus rule's implementation at its board meeting on Wednesday, Dec. 9.

The down economy has given CARB staff reason to look at whether down vehicle miles traveled and fuel purchases could indicate corresponding decreases in greenhouse gas emissions, Kay said. That could lead to a relaxing of the rule's emissions standards.

"Trucks are sitting idle, and some off-road equipment is sitting idle as a result of the bad economy," Kay said. "We have a plan to allow for some of the reduced emissions that we've got. We'll present the board with a few different options: Do we stay the course on current deadlines, do we allow a little more room, or maybe even a Plan C. It's up to the board next week."

Kay described the Tran scandal as an "unfortunate set of circumstances," and said Nichols felt some regret.

"I think in retrospect, she feels she should have told the whole board as soon as we knew," Kay said. At the time, things were moving quickly. It was just a day or so before the hearing when the news broke."

One blog post by The San Diego Tribune revealed a photo of the address listed for Thornhill University, the New York school from which Tran claimed he gained his doctoral degree. The building in the picture is a small United Postal Service storefront.

During the December 2008 CARB board meeting's discussion of the Truck and Bus rule, Telles questioned whether CARB should include

an “off-ramp” should the rule prove to be more expensive than small trucking businesses could handle.

“I don’t think the state of California wants to put people out of work,” Telles said then.

Nichols responded quickly.

“We’ve never adopted a rule that didn’t have severe opposition,” she said in December 2008. “We always go by data given to us by sources, and methods of compliance turned out to be somewhat different than they were at the beginning. It’s the difficulty of this work we do in the air regulatory field that we’re always betting. When we get close to the brink, if we’re wrong – we have to change.”

– By Charlie Morasch, staff writer
charlie_morasch@landlinemag.com

Thank You,
Darryl Mueller

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2010-01-12 22:32:39

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09) - 15-3.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 3 for Low Carbon Fuel Standard (lcfs09) - 15-3.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 4 for Low Carbon Fuel Standard (lcfs09) - 15-3.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.

Comment 5 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Brooke
Last Name: Coleman
Email Address: bcoleman@newfuelsalliance.org
Affiliation: New Fuels Alliance

Subject: Soy Biodiesel Modifications & iLUC
Comment:

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Please find attached comments submitted by the New Fuels Alliance
pursuant to the January 14, 2010 deadline for comments on the
amended and bifurcated biodiesel pathway.
```

Attachment: www.arb.ca.gov/lists/lcfs09/486-ca_lcfs_biodiesel_comments_final.pdf

Original File Name: CA LCFS biodiesel Comments FINAL.pdf

Date and Time Comment Was Submitted: 2010-01-14 13:04:41

No Duplicates.

Comment 6 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Tom
Last Name: Buis
Email Address: tbuis@growthenergy.org
Affiliation: Growth Energy

Subject: LCFS – Growth Energy 2010 Jan 14 Comments
Comment:

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LCFS – Growth Energy 2010 Jan 14 Comments
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Attachment: www.arb.ca.gov/lists/lcfs09/487-20100114_growth_energy_letter_re_third_notice.pdf

Original File Name: 20100114_Growth_Energy_Letter_re_Third_Notice.PDF

Date and Time Comment Was Submitted: 2010-01-14 13:01:58

No Duplicates.

Comment 7 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Shelby
Last Name: Neal
Email Address: sneal@biodiesel.org
Affiliation: National Biodiesel Board

Subject: Comments on LUC Effects for Soy Biodiesel & CA-GREET Version 3.0 for Midwest Soybeans
Comment:

```
Attached, please find official comments from the National Biodiesel
Board regarding the reports entitled “Land Use Change Effects for
Soy Biodiesel” and “Detailed California-Modified GREET Pathway for
Conversion of Midwest Soybeans to Biodiesel (Fatty Acid Methyl
Esters-FAME): Version 3.0,” which were released December 14, 2009.

Thank you, in advance, for your consideration of our
recommendations.

Shelby Neal
Director of State Governmental Affairs
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Attachment: www.arb.ca.gov/lists/lcfs09/490-nbb_soy_gtap_comments_1-14-10.zip

Original File Name: NBB Soy GTAP Comments 1-14-10.zip

Date and Time Comment Was Submitted: 2010-01-14 14:04:34

No Duplicates.

Comment 8 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Gina
Last Name: Grey
Email Address: gina@wspa.org
Affiliation: WSPA

Subject: WSPA Comments on Soy Biodiesel pathway docs
Comment:

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Attached are WSPA's comments on the third notice of availability of
modified text for the LCFS regulation.
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Attachment: www.arb.ca.gov/lists/lcfs09/492-carblcfs_soybiodiesel_wspa_comments.final110.doc

Original File Name: CARBLCFS soybiodiesel WSPA comments.final110.doc

Date and Time Comment Was Submitted: 2010-01-14 14:41:35

No Duplicates.

Comment 9 for Low Carbon Fuel Standard (lcfs09) - 15-3.

First Name: Cal
Last Name: Hodge
Email Address: A2ndOpinionInc@aol.com
Affiliation: A2O on Behalf of Neste Oil

Subject: Comments on 3rd 15 day LCFS notice
Comment:

See Attached File.

Attachment: www.arb.ca.gov/lists/lcfs09/494-a2o_comments_on_behalf_of_neste_oil_3rd_15_day_lcfs.pdf

Original File Name: A2O Comments On Behalf of Neste Oil 3rd 15 day LCFS.pdf

Date and Time Comment Was Submitted: 2010-01-14 15:20:55

No Duplicates.

Comment 1 for Low Carbon Fuel Standard (lcfs09) - 15-4.

First Name: Bill
Last Name: Wason
Email Address: willy_wason@yahoo.com
Affiliation:

Subject: Re: comments on the Low Carbon Fuel Standard
Comment:

Dear CARB

Briefly read the rule. pretty bad rule result from a lot of time spent discussing core issues and no consideration of any of the comments we made in your documents.

i hope you are prepared to defend the science of your indirect land use change as applied to brazilian sugar cane in a WTO lawsuit as it appears likely that Brazil will take that action in the USA and Europe. In my view, based on review of the science of a correlation between Amazon destruction and sugar cane production, you have a very weak case.

it is also unfortunate that you were unwilling to look at integrated strategies of forest preservation with carbon credits to really solve the deforestation as opposed to this scientific hatchet job to appease a political base. if you want to really solve this problem, then address this in cap and trade and provide real funding for permanent preservation through avoided deforestation credits. The likelihood that you will have no national cap and trade this year is a real challenge for you now. however, based on the steps to date, i find it unlikely that you could solve Amazon destruction with a California cap and trade as this would also fall victim to politics.

while there is some correlation in Indonesia and jungle destruction so that indirect land use change can be more clearly linked there, this is no reason not to be better in your scientific analysis of policy issues and in trying to make a universal global link between issues. Even in Indonesia there is a backlog of 7 million hectares of land not being used that was supposed to be cut to clear land for palm plantations. Forests are being cut to sell trees or charcoal!!!!!!!!!!! Brazil land can be bought dirt cheap in the Northeast ($100 or less per acre). the sale of land for sugar cane production in Sao Paulo and land for biofuel feestocks is not what is driving forest destruction. It is logging, charcoal and ranching, and ranch expansion is occurring after logging and charcoal production have destroyed the forests and usually with lots of corruption and free land thrown in. In addition, this is no longer happening. you cannot get free land from INCRA anymore in the legal Amazon and there is now serious enforcement of laws in Brazil. you cannot grow either sugar cane or soybeans in the Amazon. The country has committed to 80% cut in deforestation. Brazil has made real commitments to climate change reductions. And this is how you treat them? clearly a disconnect.

it is also unfortunate that California imports large amounts of tropical hardwoods in the form of furniture but has no mechanism to address the land use change impacts of this purchase and yet is trying to make a link to the forest destruction with biofuels. rather ridiculous from a policy standpoint. We would suggest you join an effort to impose global tarrifs on true reasons for deforestation and carbon emissions as part of an Climate Change accord that could get meaningful climate emission cuts from China. this would involve WTO enforced tarrifs on all products sold in international commerce that have a significant impact on climate change (wood, steel, cement, oil, etc.)

it is also really unfortunate that you stop at the tank instead of the wheels in assessing low carbon fuels and fail to incorporate fuel additives in your analysis of options to reduce carbon emissions. bad public policy decision. it will be interesting to see how you will deal with other groups taking this policy direction like British Columbia and achieving real carbon emission reductions while you get nowhere. It is now likely you will not get any further than the RFS 2 mandatory requirements in the implementation of the low carbon fuel rule since you claim there is little carbon benefit because of the poor science of indirect land use change and your acceptance of this science in implementing this regulation.

finally, the lack of indirect land use change being applied to petroleum is a real distorted view of reality in light of the environmental destruction from major oils spills (Alaska still has not recovered from its spill and damage in France was severe) and Iraq (oil war correlation is much stronger than sugar cane and Amazon) and jis rather disturbing given that this is against all rules of equal treatment that are in ARB's code of conduct.

but then this is not an unexpected result. the conclusions for how to proceed were made in 2008 and the rest has all been window dressing.

sincerely
bill wason

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2010-02-03 15:59:24

No Duplicates.

Comment 2 for Low Carbon Fuel Standard (lcfs09) - 15-4.

First Name: Shelby
Last Name: Neal
Email Address: sneal@biodiesel.org
Affiliation: National Biodiesel Board

Subject: Comments on soy GTAP modeling results released 2-1-10
Comment:

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Thank you, in advance, for your consideration of our views.

Shelby Neal
Director of State Governmental Affairs
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Attachment: www.arb.ca.gov/lists/lcfs09/502-nbb_comments_on_soy_gtap_model_2-15-10.zip

Original File Name: NBB Comments on Soy GTAP model 2-15-10.zip

Date and Time Comment Was Submitted: 2010-02-15 14:24:17

No Duplicates.

Comment 3 for Low Carbon Fuel Standard (lcfs09) - 15-4.

This comment was posted then deleted because it was unrelated to the Board item or it was a duplicate.