There are no comments posted to Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023) at this time.

Comment 1 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: James
Last Name: Duffy
Email Address: duffje@msn.com
Affiliation: No affiliation

Subject: Cap and phase out the use of crop-based biofuels
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/1-lcfsupdate2023-VzMCcVcwAzYGeQhX.pdf

Original File Name: Duffy_CARB_Board_Meeting_written_comments_9-28-23.pdf

Date and Time Comment Was Submitted: 2023-09-28 07:17:17

No Duplicates.

Comment 2 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Graham
Last Name: Noyes
Email Address: graham@noyeslawcorp.com
Affiliation: Noyes Law Corporation for Pearson Fuels

Subject: Pearson Fuels LCFS Comment RE: E85 and Flex Fuel Vehicles
Comment:

Dear Chair Randolph and Executive Officer Cliff,

Our full comments are attached; the following is a summary of key points. We appreciate the opportunity to comment on the Low Carbon Fuel Standard LCFS rulemaking.

Pearson Fuels is the largest distributor of E85 in California, supplying more than 325 public and private fueling locations across the state.

Pearson Fuels is an ardent supporter of the LCFS. As recognized in the 2022 Final Scoping Plan ("Scoping Plan"), the LCFS program is the most effective program in the transportation sector. The Scoping Plan similarly recognizes that increasing the rate of LCFS carbon intensity ("CI") reductions and extending the schedule of CI reductions is essential to California's success in fulfilling the requirements of AB 32 and achieving carbon neutrality by 2045.

In order to fully leverage the tremendous market power of the LCFS to decarbonize the transportation sector, we recommend that the Governing Board direct CARB staff to fully explore the following specific issues to inform the development of proposed amendments to the LCFS:
• Low carbon fuels such as E85 are often priced below conventional fossil fuels and these fuels save consumers' money, reduce greenhouse gas ("GHG") emissions, reduce criteria pollutant emissions, and diversify the transportation fuels market.
• California marketers have identified and promoted E85 as a consumer-friendly fuel; built out a massive E85 station network particularly in disadvantaged communities; and leveraged California's existing FFV fleet to reduce petroleum dependence and GHG emissions.
• California should continue to utilize biofuels as a vitally important GHG reduction strategy; further leverage its existing FFV fleet to reduce GHGs in the light-duty sector; and utilize biofuels including E85 to achieve carbon neutrality to supply internal combustion engines that will remain on the road beyond 2045.
• Through the use of the full range of low carbon fuels available to California, it is feasible for California to achieve a CI reduction goal of 35% by 2030, as we've advocated for previously. ICF International shows the potential for a target reduction of 42% for 2030 through modeling it has done for the Low Carbon Fuels Coalition and other stakeholders.

In addition to these LCFS program recommendations, we recommend

that CARB explore ways to establish other types of policy support for flex fuel vehicles ("FFVs") to complement the support that is provided to zero emission vehicles ("ZEVs").

Best Regards,
Graham Noyes, Noyes Law Corporation
for Pearson Fuels

Attachment: www.arb.ca.gov/lists/com-attach/2-lcfsupdate2023-USEHZARkV3YGc1c4.pdf

Original File Name: Pearson LCFS Comment 26 Sept 2023 FINAL.pdf

Date and Time Comment Was Submitted: 2023-09-28 08:16:51

No Duplicates.

Comment 3 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Harrison
Last Name: Pettit
Email Address: harrison.pettit@pacificag.com
Affiliation:

Subject: Support for Low Carbon Fuel Standard
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/3-lcfsupdate2023-BWZVMlIhBDUBWAll.pdf

Original File Name: CARB Letter-LCFS Support.pdf

Date and Time Comment Was Submitted: 2023-09-28 08:27:15

No Duplicates.

Comment 4 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Alexa
Last Name: Combelic
Email Address: acombelic@soy.org
Affiliation: American Soybean Association

Subject: American Soybean Association Comments for 9/28 Public Hearing
Comment:

Please see attached file.

Attachment: www.arb.ca.gov/lists/com-attach/4-lcfsupdate2023-V2VXYVZlVDQCKVdn.pdf

Original File Name: 2023-09-28 -- ASA Testimony - CARB Public Hearing.pdf

Date and Time Comment Was Submitted: 2023-09-28 08:48:57

No Duplicates.

Comment 5 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: James
Last Name: Duffy
Email Address: duffje@msn.com
Affiliation: No affiliation

Subject: Comments on CCS and DAC
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/5-lcfsupdate2023-VDACcVQzBTBSLQVa.pdf

Original File Name: Duffy_CARB_Board_Meeting_written_comments_CCS_DAC_9-28-23.pdf

Date and Time Comment Was Submitted: 2023-09-28 08:55:15

No Duplicates.

Comment 6 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Chris
Last Name: Malins
Email Address: chris@cerulogy.com
Affiliation: Cerulogy

Subject: Comment on suggested amendments to the LCFS
Comment:

```
Dear ARB,

I attach my comments in relation to the 28 September 2023 'Public
Meeting to Hear an Update on the Low Carbon Fuel Standard',

Yours,

Chris Malins,
Cerulogy
```

Attachment: www.arb.ca.gov/lists/com-attach/6-lcfsupdate2023-AHcFcVU9U3QFdwZj.pdf

Original File Name: Written submission of Cerulogy, LCFS meeting 28 September 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 09:10:52

No Duplicates.

Comment 7 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Katt
Last Name: Ramos
Email Address: katt@cbecal.org
Affiliation:

Subject: Low Carbon Fuel Standard
Comment:

Our community in Richmond has lost too many elders, grandparents, and children to countless terminal illnesses and health conditions connected to their living in proximity to one of the biggest polluters in California, the Chevron oil refinery. We have lost cultural histories and some future elders to the toxic impact from this global fossil fuel giant, while being told to wait for our chance to be repaired and protected with new cleaner solutions to the impact on our air and soil and water, and every day lives.

What is protective or repairative about an incentive plan filled with "solutions" from the industry that has put us on this destructive path to begin with?????

We took time to plan and invite you to our community to show you the direct impacts to our children's lungs and tiny vulnerable bodies, to share with you our solutions as a community to survive and thrive. AND yet --- what you propose is going to incentivize carbon capture sequestration plans from oil refineries that are literally killing us. The only future for Richmond under these plans brings more flaring and the potential for another MASSIVE explosion where no hospital exists for miles. What will our death toll be then??? Shall we bury our dead on the 3000 acres of land Chevron occupies in Richmond?

I challenge you all to do better and align with the communities and workers that continue to suffer. Decision making bodies like yours are proposing to allow those who have violated our bodies and communities to do so for many more years by incentivizing alternative fuels and allowing CCS projects to use our communities as guinea pigs for the foreseeable future.

Anything less than community centered solutions is a betrayal of our communities and all those we have lost due to environmental racism which you will continue to allow with your plan.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-09-28 09:15:42

No Duplicates.

Comment 8 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Yuliya
Last Name: Shmidt
Email Address: yuliya.shmidt@bart.gov
Affiliation:

Subject: BART's comments on fixed guideway crediting
Comment:

Dear Dr. Laskowski,

Thank you for the opportunity to provide comments on potential changes to the LCFS Program. The San Francisco Bay Area Rapid Transit District (BART) is a strong and steadfast supporter of the LCFS Program. BART owns and operates an electrified fixed-guideway transit system along with electric vehicle charging at its parking facilities. It has participated as an opt-in entity in the LCFS since 2016.

BART runs 220,000 trains a year and operates in five counties (San Francisco, San Mateo, Alameda, Contra Costa, and Santa Clara) with 131 miles of track and 50 stations. The vast majority of BART trains are electric, with 100% of its electricity supplied by zero-carbon resources including solar, wind, and hydroelectric generators. Every weekday of 2022, BART prevented an estimated 40,000 car trips and reduced California greenhouse gas (GHG) emissions by 500,000 lbs. CO2e.

The LCFS program is a powerful tool to meet the state's climate goals by incentivizing use of fuels with lower carbon intensity and switching to modes of travel such as public transit. The LCFS is one of California's best instruments to get passengers out of cars and reduce Vehicle Miles Traveled (VMT). BART appreciates that CARB is considering improvements to the program to increase its ability to reduce California's GHG emissions and provide a long-term stable price signal to reduce the carbon intensity of transportation.

As a long-time participant in the LCFS program, BART has generated credits and used the revenue from their sales to fund a variety of sustainability measures. Like other transit agencies, BART is experiencing a post-pandemic decrease in ridership and subsequent considerable budget deficit. BART is projected to have an approximately $300 million deficit each fiscal year between 2025 and 2027.

Revenues from sales of LCFS credits now have an outsized importance on BART's sustainability measures, along with its ability to continue to provide its core train services. The recent steep decline in the value of LCFS credits has been severely detrimental to BART's already-troubled budget. We are encouraged that CARB is considering changes to support the price of LCFS credits.

In addition, BART is troubled by the inconsistent and disadvantageous treatment of existing train systems. Pre-2011 fixed

guideways receive a fraction of the LCFS credits of post-2010 fixed guideways. BART's newer extensions are granted 4.6 times more credits than older ones, despite no such efficiency difference recorded in the actual operation of newer and older railways.

BART began operations in 1972 and almost 90% of its train system falls into the pre-2011 category. Fixed guideway systems are the only category to be penalized in this way in the LCFS program. We urge CARB to correct this unfair treatment. Although the railway has been built, it is expensive to maintain full train service, both in terms of frequency of trains and hours of operation. Electricity is BART's second largest operating expense. BART has so far avoided service cuts, but it is not yet clear how it will make up for the projected budget shortfall in the coming years. BART has continued to invest in clean power, supplying its system with 100% carbon-free electricity for the past three years. However, as the fiscal cliff looms, it will have to make difficult decisions about the type of power it purchases.

Public transit is essential to California's achievement of its climate goals. We urge CARB to correct the inequitable treatment of fixed guideway systems within the LCFS program. None of the amendments studied in the Standardized Regulatory Impact Assessment (SRIA) issued on September 8, 2023 address this issue.

In addition, we support LA Metro and Earthjustice recommendations to create credit multipliers for projects that advance key state and environmental justice priorities such as bus electrification. Passengers who take transit often use several modes by connecting bus and train trips. Each of those trips saves GHG emissions that would result from those passengers driving cars instead.

Thank you for the opportunity to provide comments on potential changes to the LCFS program. We look forward to continuing our work together to support California's robust climate goals.

Sincerely,

Yuliya Shmidt
Manager of Energy
yuliya.shmidt@bart.gov
(510) 287-4835

Attachment: www.arb.ca.gov/lists/com-attach/8-lcfsupdate2023-AGICZVQnByABWAVm.pdf

Original File Name: BART comments on LCFS update September 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 09:18:35

No Duplicates.

Comment 9 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Ryan
Last Name: kenny
Email Address: ryan.kenny@cleanenergyfuels.com
Affiliation: Coalition of 76 Stakeholders

Subject: Comment Letter from 76 Stakeholders
Comment:

```
Hello, please find attached a letter from 76 stakeholders
commenting on the update to the Low Carbon Fuel Standard. Thank you
for considering our views.
```

Attachment: www.arb.ca.gov/lists/com-attach/9-lcfsupdate2023-BmVXOVU1UWsHcwNc.pdf

Original File Name: Chair Randolph Multi-Fuel Support for Continuing LCFS Success.pdf

Date and Time Comment Was Submitted: 2023-09-28 09:25:40

No Duplicates.

Comment 10 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Steve
Last Name: Bond
Email Address: steve.bond@crimsonrenewable.com
Affiliation: Crimson Renewable Energy

Subject: Crimson Renewable Energy Comment for 09/28/23 CARB Board Meeting
Comment:

Please see attached comment.

Attachment: www.arb.ca.gov/lists/com-attach/10-lcfsupdate2023-B2QHc1Y+WWcHclI9.pdf

Original File Name: Crimson Renewable Energy Comment - CARB Board Meeting 092823A.pdf

Date and Time Comment Was Submitted: 2023-09-28 08:45:59

No Duplicates.

Comment 11 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Richard
Last Name: Plevin
Email Address: rich@plevin.com
Affiliation:

Subject: End support for biofuels in LCFS
Comment:

Please see attached PDF.

Attachment: www.arb.ca.gov/lists/com-attach/11-lcfsupdate2023-B2sAYwB1UHcFZlMh.pdf

Original File Name: Letter to CARB September 28 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 09:22:27

No Duplicates.

Comment 12 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Tom
Last Name: Conlon
Email Address: editor@transitionsonomavalley.org
Affiliation:

Subject: Methane Question from a 5th Grader
Comment:

Hello,
I am trying to explain Low Carbon Fuel Standard math to a thoughtful 5th grader. She is asking, "Why is methane from cow poop more valuable than methane from a fossil fuel well? It smells awful! Why is the government giving stinky dairies money to make more of it?"

I'm sorry, but I don't have any answer. I hope you can answer this good question, in words that a 5th grader can understand, or else end this seemingly stupid spending.

Thank You,
- Tom Conlon, Sonoma County

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-09-28 09:42:03

No Duplicates.

Comment 13 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Helen
Last Name: Kemp
Email Address: hkemp@3degreesinc.com
Affiliation: 3Degrees Group Inc.

Subject: 3Degrees Comments on LCFS
Comment:

Please see comments attached. Thank you!

Attachment: www.arb.ca.gov/lists/com-attach/13-lcfsupdate2023-AjEHZVM3U2cEcFA1.pdf

Original File Name: 3Degrees Comments on CARB LCFS Meeting - September 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 09:59:43

No Duplicates.

Comment 14 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: James
Last Name: Duffy
Email Address: duffje@msn.com
Affiliation: No affiliation

Subject: Comments on Dairy LCA
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/14-lcfsupdate2023-UTUBclYxBDELdAFe.pdf

Original File Name: Duffy_CARB_Board_Hearing_Dairy_LCA_9-28-23.pdf

Date and Time Comment Was Submitted: 2023-09-28 10:17:54

No Duplicates.

Comment 15 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Graham
Last Name: Noyes
Email Address: graham@noyeslawcorp.ccom
Affiliation: Low-CI Power Coalition

Subject: Low-CI Power Coalition Comments on LCFS Program
Comment:

```
Dear Chair Randolph and Executive Officer Cliff,

Please find attached the Low-CI Power Coalition Comments on the
LCFS Program.  Thank you.

Sincerely,
Graham Noyes
```

Attachment: www.arb.ca.gov/lists/com-attach/15-lcfsupdate2023-BzUFMAY3BG4DN1Vi.pdf

Original File Name: 230927_Low-CI Power Coalition_ARB LCFS Comments.PDF

Date and Time Comment Was Submitted: 2023-09-28 10:16:19

No Duplicates.

Comment 16 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Daniel
Last Name: Lashof
Email Address: dan.lashof@wri.org
Affiliation: World Resources Institute

Subject: Cap the use of crop-based biofuels for LCFS compliance
Comment:

I write to call your attention to a serious risk that proposed revisions to the Low Carbon Fuel Standard currently being developed by CARB staff could have the unintended consequence of increasing greenhouse gas emissions, rather than lowering them, by driving a large increase in consumption of crop-based biofuels that result in greater emissions than petroleum-based transportation fuels. To prevent this perverse outcome, I urge CARB to establish a cap on the use of crop-based biofuels for LCFS compliance at 2022 levels while it revises its approach to calculating the Carbon Intensity of such fuels to properly account for their impacts on land use.

Please see attachment for further details.

Attachment: www.arb.ca.gov/lists/com-attach/16-lcfsupdate2023-BWNTNwN1Vz9cKM0d.pdf

Original File Name: WRI Letter to CARB on LCFS.pdf

Date and Time Comment Was Submitted: 2023-09-28 10:26:00

No Duplicates.

Comment 17 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Shannon
Last Name: Broome
Email Address: sbroome@huntonak.com
Affiliation: Highly Innovative Fuels

Subject: See attachment
Comment:

See attachment

Attachment: www.arb.ca.gov/lists/com-attach/19-lcfsupdate2023-B29cK1F9VjVSZgEs.pdf

Original File Name: HQ-02-BW465A@arb.ca.gov_20230928_120950.pdf

Date and Time Comment Was Submitted: 2023-09-28 10:55:07

No Duplicates.

Comment 18 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: James
Last Name: Duffy
Email Address: duffje@msn.com
Affiliation: No affiliation

Subject: LCFS should focus much more on equity
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/20-lcfsupdate2023-BWEGdVcwADUFegFe.pdf

Original File Name: Duffy_CARB_Board_Hearing_Equity_9-28-23.pdf

Date and Time Comment Was Submitted: 2023-09-28 10:59:11

No Duplicates.

Comment 19 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Evan
Last Name: Edgar
Email Address: evan@edgarinc.org
Affiliation:

Subject: ZEV Batteries as a transportation fuel has a average CI of 76
Comment:

We have worked closely with EJAC on the development of the 2022 Scoping Plan Update and the proposed California ZEV Battery Directive, which included the need to prepare a Life Cycle Analysis (LCA) for ZEVs. As part of the Scoping Plan process, the need to conduct LCAs for ZEV batteries was cornerstone in our comments sent to CARB and EJAC. As part of the upcoming LCFS regulations, ZEVs batteries usage as a transportation fuel need to be included in the LCFS regulations with a life-cycle assessment, where the average carbon intensity based upon recent European Studies is 76 g CO2/MJ.

Attachment: www.arb.ca.gov/lists/com-attach/21-lcfsupdate2023-VzRWMV0uUmMFXARo.pdf

Original File Name: CARB LCFS meeting Submittal Sept 28 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 11:03:40

No Duplicates.

Comment 20 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Madison
Last Name: Vander Klay
Email Address: mvanderklay@svlg.org
Affiliation: Silicon Valley Leadership Group

Subject: SVLG Comments on the Low Carbon Fuel Standard
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/22-lcfsupdate2023-UT0FbAF3Ag5VMFIz.pdf

Original File Name: Low Carbon Fuel Standard.pdf

Date and Time Comment Was Submitted: 2023-09-28 11:41:59

No Duplicates.

Comment 21 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Sean
Last Name: Trambley
Email Address: sean@americanbiogascouncil.org
Affiliation:

Subject: American Biogas Council Support for the LCFS
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/23-lcfsupdate2023-B2YGYlY0VVkDZgFu.pdf

Original File Name: ABC Comments to CARB in Support of LCFS Sept 28 2023 Sean Trambley.pdf

Date and Time Comment Was Submitted: 2023-09-28 11:53:03

No Duplicates.

Comment 22 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Patrick
Last Name: Serfass
Email Address: info@americanbiogascouncil.org
Affiliation:

Subject: American Biogas Council Supports California's LCFS
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/24-lcfsupdate2023-VzZTNwNhAAxSOFAz.pdf

Original File Name: ABC LCFS Letter to CARB_FINAL.pdf

Date and Time Comment Was Submitted: 2023-09-28 11:55:13

No Duplicates.

Comment 23 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Tom
Last Name: Frantz
Email Address: tom.frantz49@gmail.com
Affiliation:

Subject: LCFS promotes combustion
Comment:

There is virtually no form of combustion which leads us to a sustainable low carbon future suitable for sustaining life as we know it.

Collecting methane from dairies and then burning it is stupid. The solution is to not create the methane in the first place. Regulate methane from dairies and they will stop producing it. Instead, the carbon and nutrients in manure will be recycled which is the number one best use in terms of sustainability and reduction of GHG.

Please use common sense and stop catering to the fossil fuel industry with these manure/methan collection offsets.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-09-28 12:09:26

No Duplicates.

Comment 24 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Anthony
Last Name: Harrison
Email Address: anthony@terawattinfrastructure.com
Affiliation: TeraWatt Infrastructure

Subject: Joint EV Fleet Infrastructure Parties Comments on LCFS
Comment:

```
Please find the attached letter from the JEVFIP on the proposed FCI
mechanism for fleet vehicles under LCFS.
```

Attachment: www.arb.ca.gov/lists/com-attach/26-lcfsupdate2023-BWNVOlwzAjAHbQVa.pdf

Original File Name: FINAL_JEVFIP Comments on LCFS Program_09282023 Board Meeting[64].pdf

Date and Time Comment Was Submitted: 2023-09-28 12:23:54

No Duplicates.

Comment 25 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Don
Last Name: Schinske
Email Address: don@lcfcoalition.com
Affiliation: Low Carbon Fuels Coalition

Subject: LCFC submission re. ICF Analysis on Accelerated Targets
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/27-lcfsupdate2023-VWcGMwQ1VD5RZVJq.pdf

Original File Name: 230928 LCFC re. ICF Analysis.pdf

Date and Time Comment Was Submitted: 2023-09-28 13:03:13

No Duplicates.

Comment 26 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Don
Last Name: Schinske
Email Address: don@lcfcoalition.com
Affiliation: Low Carbon Fuels Coalition

Subject: LCFC submission of Bates White study
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/28-lcfsupdate2023-W2lXYldmBG4GMlVt.pdf

Original File Name: 230928 LCFC re. BW Study.pdf

Date and Time Comment Was Submitted: 2023-09-28 13:05:45

No Duplicates.

Comment 27 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Joshua
Last Name: Wilson
Email Address: Josh.Wilson@poet.com
Affiliation: POET

Subject: POET Comments in Connection with the September 28, 2023 Board Meeting Re: LCFS Updates
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/29-lcfsupdate2023-ADBSbQY1VzwCNlBg.pdf

Original File Name: 09282023_POET_CARB LCFS Meeting Comments_Attachments.pdf

Date and Time Comment Was Submitted: 2023-09-28 12:58:14

No Duplicates.

Comment 28 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Daniel
Last Name: Chandler
Email Address: dwchandl@gmail.com
Affiliation: 350 Humboldt/Climate Action California

Subject: LCFS avoided methane
Comment:

Please see attachment.

Attachment: www.arb.ca.gov/lists/com-attach/30-lcfsupdate2023-AHMCYVMiUnUGXwU3.pdf

Original File Name: Sept 28 Comments on LCFS to CARB.pdf

Date and Time Comment Was Submitted: 2023-09-28 13:09:14

No Duplicates.

Comment 29 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Jane
Last Name: O'Malley
Email Address: j.omalley@theicct.org
Affiliation:

Subject: ICCT comments on LCFS Board hearing
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/31-lcfsupdate2023-UThRNFw+ACdSCwJh.pdf

Original File Name: ICCT comments on Sept 28 board hearing.pdf

Date and Time Comment Was Submitted: 2023-09-28 13:09:38

No Duplicates.

Comment 30 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Ignacio
Last Name: Fernandez
Email Address: ignacio.m.fernandez@sce.com
Affiliation: Southern California Edison

Subject: SCE comments on LCFS Update Meeting
Comment:

```
Dear sir/madam,
Please find attached Southern California Edison's comments on the
Low Carbon Fuel Standard meeting taking place on September 28,
2023.
Best regards,
I.
```

Attachment: www.arb.ca.gov/lists/com-attach/32-lcfsupdate2023-AnEGY1UxV1sEYQZp.pdf

Original File Name: SCE_Comments LCFS Update Workshop 20230928.pdf

Date and Time Comment Was Submitted: 2023-09-28 14:10:40

No Duplicates.

Comment 31 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Sara
Last Name: Olsen
Email Address: solsen@edf.org
Affiliation: Environmental Defense Fund

Subject: Environmental Defense Fund LCFS Reform Comments - Aviation
Comment:

```
Hello,

Please see the attached comments.

Thank you!
```

Attachment: www.arb.ca.gov/lists/com-attach/33-lcfsupdate2023-AmcHb1wrBD5XI1M8.pdf

Original File Name: Environmental Defense Fund_CARB Board meeting LCFS reform Aviation 28 September 2023.pdf

Date and Time Comment Was Submitted: 2023-09-28 14:14:05

No Duplicates.

Comment 32 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Dallas
Last Name: Gerber
Email Address: dgerber@growthenergy.org
Affiliation: Growth Energy

Subject: Growth Energy Comments on Changes to LCFS
Comment:

```
Please see the attached comments from Growth Energy's Senior Vice
President of Regulatory Affairs, Chris Bliley.
```

Attachment: www.arb.ca.gov/lists/com-attach/34-lcfsupdate2023-V2UGMAMwWDhQeFVl.pdf

Original File Name: 2023.09.28 - CARB_Meeting_LCFS_Changes.pdf

Date and Time Comment Was Submitted: 2023-09-28 14:18:41

No Duplicates.

Comment 33 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Kevin
Last Name: Hamilton
Email Address: kevin.hamilton@centralcalasthma.org
Affiliation: CENTRAL CALIFORNIA ASTHMA COLLABORATIVE

Subject: Low Carbon Fuel Standard
Comment:

Dairy and other organic waste digester created methane should not be part of LCFS if they are already required to be avoided by regulation. CARB should hold on any decision about dairy biogas continued inclusion in LCFS until the new diary methane control regulations are updated in 2024.

Attachment: www.arb.ca.gov/lists/com-attach/36-lcfsupdate2023-UT1WM106UnICW1Ix.pdf

Original File Name: LCFS Comments signed.pdf

Date and Time Comment Was Submitted: 2023-09-28 14:47:21

No Duplicates.

Comment 34 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Kimberly
Last Name: McCoy
Email Address: kimberly.mccoy@centralcalasthma.org
Affiliation: Central California Asthma Collaborative

Subject: Update on the Low Carbon Fuel Standard
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/37-lcfsupdate2023-UGJdaARaUGBQNwh6.docx

Original File Name: 23 CARB Comments.docx

Date and Time Comment Was Submitted: 2023-09-28 15:11:06

No Duplicates.

Comment 35 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Peter
Last Name: Dahling
Email Address: peter.dahling@neste.com
Affiliation: Neste

Subject: Neste Comments on LCFS Discussion Item - 09-28-23
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/38-lcfsupdate2023-Am5TNgdgBycAWVcz.pdf

Original File Name: LCFS Discussion Item Comments - CARB Board Hearing - 09-28-23.pdf

Date and Time Comment Was Submitted: 2023-09-28 15:13:39

No Duplicates.

Comment 36 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Colin
Last Name: Murphy
Email Address: cwmurphy@ucdavis.edu
Affiliation:

Subject: Comments in regard to LCFS item at Sept 28 meeting
Comment:

Dear CARB Board Members and Staff,

Thank you for the opportunity to comment on the LCFS item you heard today. The UC Davis Policy Institute for Energy, Environment, and the Economy has been the leading academic research group on the topic of the LCFS since we were founded in 2011 and have appreciated the opportunity to collaborate with CARB LCFS staff and the broader community of stakeholders on many occasions since then. We are happy to offer the following comments, and look forward to the robust discussion on these topics we expect in the coming weeks. Note that neither the University of California, nor the Policy Institute take any formal positions regarding the adoption of specific provisions or regulatory language, our comments are offered to help inform the discussion on this topic.

The Policy Institute has been working on several research projects with direct relevance to the 2030 LCFS rulemaking that was the subject of most of the discussion today. We are happy to discuss them with any interested stakeholder, and a variety of reports, articles, research presentations and other materials are available at our website: lowcarbonfuel.ucdavis.edu. Recently, we analyzed many likely target, technology, and policy scenarios related to the LCFS using our Fuel Portfolio Scenario Model (FPSM). This work was presented in a webinar in July of this year, the presentation slides are attached to this comment and a recorded video of the webinar can be found at the following link (https://youtu.be/CLuKFPIVhZg), The final report from this project is under review and will be published shortly, in the Publications section at our website.

In general, our modeling aligns with the modeling results reported by LCFS staff using the CATS model over the last several months. We find that a 30% carbon intensity (CI) reduction target in 2030 is achievable under a wide range of scenarios, and is compatible with California's broader progress toward carbon neutrality. This target, especially when achieved with a target trajectory that includes a large target increase in early years (often referred to as a "step-down") like the one included in the current staff proposals, would be expected to help resolve the imbalance between credit supply and demand that has resulted in the low LCFS credit prices observed since 2020. While CI reduction targets higher than 30% in 2030 may be nominally feasible, achieving them would likely require continued rapid growth in the consumption of crop-based biofuels, which would have potentially serious unwanted consequences through land use change impacts.

We note very robust and intense discussion around the proposed changes to the treatment of avoided methane credits from livestock digesters. This is a complex topic, with significant measurement, analytical, and policy uncertainty. Providing avoided methane credits for projects like anaerobic digesters generally aligns with most scientific literature on the topic of life cycle analysis, provided they are properly quantified with careful attention to additionality, verification, and comparison against a valid real-world baseline. The current approach to establishing the additionality of avoided methane credits primarily bases its determination on the existence of contravening law or regulation. That is to say, avoided methane credits can be issued provided there is no law or policy that bans the emission of methane. This approach creates a stark binary decision regarding additionality, either something is illegal or it isn't, however this approach may not effectively reflect the broad transitions we expect in the agriculture sector over the next decade. A variety of mechanisms, including incentives, voluntary partnerships, social pressure, improved technology, and anticipated future regulation are shifting standard practices throughout many sectors of the economy, including dairies and other livestock producers. The anticipated sector-wide shift to more sustainable methods means that the assumption of unregulated methane release from manure lagoons will become increasingly problematic over time. That is to say, average methane emission rates across livestock operations may decline even in absence of regulation, but the current approach to additionality assigns credits as if emission rates were fixed across time. A new approach to additionality assessment, one that considers factors beyond just the existence of contravening law or policy, may allow for more accurate alignment between avoided methane credits and real-world climate impacts. We echo comments made by Dr. Michael Wara of Stanford University's Woods Institute of the Environment, made at the September 14 Environmental Justice Advisory Committee meeting, that data on methane emission rates are often based on approximate and possibly outdated estimation methodologies, updating those data may allow for better alignment between LCFS credit issuance and real-world GHG impact. We also note that in the FPSM modeling we performed related to 2030 LCFS targets, we found that the proposed changes to RNG crediting are compatible with attaining the 30% 2030 LCFS target. Under current policy, we project RNG to supply 15% of the total LCFS credit supply in 2030, and that fraction declines as EVs come to dominate LCFS credit generation; moderate reductions in credits from avoided methane credits are unlikely to leave the market in a position of sustained credit insufficiency.

We note in the recently released SRIA a proposal for an auto-acceleration mechanism for the LCFS target, which would automatically increase the target if certain criteria indicating an over-supply of credits are observed. We were invited by CARB to present our modeling on the topic at the May 23rd workshop on the topic. Our work concurs with CARB staff's modeling that the chosen mechanism, in which targets are advanced by two years rather than one in the January following the triggering of the auto-acceleration mechanism (a.k.a. a "pull-forward" mechanism), would provide a significant protection against sustained periods of credit oversupply. This reduces the risk of prolonged periods of very low LCFS credit prices, such as the one observed over the last two years. We note, however, that our modeling demonstrated that the "pull-forward" mechanism can, in some scenarios, lead to the depletion of the credit bank in the early to mid 2030's. Our

recommendation, which we presented in the workshop, was to consider a mechanism in which the target increases caused by an auto-acceleration mechanism would be relaxed (by holding the target constant until it returned to its original trajectory) in the event that significant net deficits of credits emerged in years following the auto-acceleration event.

Another topic of significant interest in this rulemaking concerns the adoption of a cap on crop-based biofuel feedstocks. At present, CARB uses indirect land use change (ILUC) adjustments based on GTAP-AEZ modeling to adjust the CI of specified biofuel pathways to reflect the estimated ILUC effects from biofuel use. The ILUC assessments used for this purpose were adopted in 2016 and largely rely on data that is now over a decade old. There has been intense debate within the research community about the best methods of ILUC assessment, as well as the relative merits of the several models that claim to accurately assess ILUC impacts. While the approach CARB has used to date, in combination with the Federal Renewable Fuel Standard, has not resulted in excessive and unwanted levels of land use change, the impending adoption of new Federal biofuel tax credits, combined with the new Canadian Clean Fuels Program and the expanding number of U.S. states with their own fuel policies means that the existing approach may not be adequately protective in the future. Additional safeguards against unwanted land use change may be warranted. Please find attached a presentation I recently gave as part of the EPA's National Center on Environmental Economics seminar series that discusses the challenges of ILUC modeling, especially regarding the accuracy of model-based point estimates of ILUC impact. A link to a recorded version of this talk can be found here (https://www.youtube.com/watch?v=eT06-vw0Fnw). More effective and protective ILUC policy could take the form or updated ILUC adjustment factors that work within the existing framework, the proposed cap on crop-based feedstocks, or other policy mechanisms. We are happy to work with CARB and other stakeholders to develop a robust, evidence-based solution.

Finally, we note that the scope of the proposed LCFS rulemaking is limited to a relatively narrow set of topics, predominantly those that are likely to have a direct and immediate impact on the balance between credits and deficits in the near term. This reflects a desire to address the market imbalances that have resulted in the current, prolonged period of low LCFS credit prices. While we recognize the need to prioritize immediate solutions to emergent problems, there are a number of other significant issues which deserve attention. These include:

- Updating the Energy Economy Ratios (EERs) which underpin many credit generation calculations, but are based on data that is over 15 years old and no longer reflects the type of vehicles in use today.
- Addressing the systematic overcrediting of vehicles with EER >1 that emerges as fleets progress to the middle and later phases of their shift away from internal combustion engines. A report detailing this problem and a simple, technology-neutral solution is attached to this comment.
- Developing new approaches to additionality and baseline emissions estimation to better align credit generation with real-world behavior in economic sectors that are transitioning to more sustainable methods of operation (this was discussed in the context of avoided methane crediting above but applies to other areas of the LCFS policy as well).
- Preparing the LCFS market for the radical changes in revenue

dynamics that it will undergo in the 2030's as petroleum's share of total transportation energy declines.
- Harmonizing and/or linking the LCFS market to similar policy systems emerging in more U.S. states over time.
- Addressing difficult-to-electrify sectors of the transportation fleet and developing required supplies of low-carbon liquid gasoline or jet fuel substitutes.

We recognize that full consideration of these issues is incompatible with a rulemaking that can be rapidly concluded to restore the LCFS' capacity to drive investment in critically-needed fuel production infrastructure. None of the issues listed above is an imminent crisis, however most of all of them could become crises over the next 5-10 years if they are not adequately addressed. Major LCFS rulemakings customarily occur on an approximately 5 year cycle, following the scoping plan. Waiting until 2028 or later, for the next iteration of this cycle risks letting one or more of these emerge as a threat to LCFS program or market stability. These risks could compromise California's ability to achieve its 2030 or 2045 GHG reduction commitments. Addressing these issues in a rulemaking at the earliest possible opportunity would allow for minimally disruptive solutions to be adopted with ample advance notice to stakeholders, and help secure the LCFS ability to continue supporting California's transition to a sustainable, equitable, and low-carbon transportation system in coming decades.

Thank you for the opportunity to comment on these issues. I and my colleagues at the UC Davis Policy Institute for Energy, Environment, and the Economy look forward to continuing this discussion in the weeks to come. If we can clarify anything stated here, or help advance these critical discussions, please don't hesitate to reach out. I can be reached at cwmurphy@ucdavis.edu.

Sincerely,

Colin Murphy Ph.D.
Deputy Director, UC Davis Policy Institute for Energy, Environment, and the Economy
Co-Director, UC Davis Institute of Transportation Studies Low Carbon Fuel Policy Research Initiative

Attachment: www.arb.ca.gov/lists/com-attach/39-lcfsupdate2023-Am8GYQZaUGdVfm0d.zip

Original File Name: Murphy - Files for LCFS comment.zip

Date and Time Comment Was Submitted: 2023-09-28 15:54:49

No Duplicates.

Comment 37 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Timothy
Last Name: Searchinger
Email Address: tsearchi@princeton.edu
Affiliation:

Subject: Comments on Low Carbon Fuel Standard
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/40-lcfsupdate2023-UGJTNgZrU2EDWM0d.pdf

Original File Name: Searchinger Comments to California Air Resources Board Regarding Renewable of Low Carbon Fuel Standard (Princeton University, September 28 2023).pdf

Date and Time Comment Was Submitted: 2023-09-28 15:58:01

No Duplicates.

Comment 38 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Dean
Last Name: Taylor
Email Address: Dean@CalETC.com
Affiliation:

Subject: comments on Sept 28 LCFS hearing
Comment:

attached

Attachment: www.arb.ca.gov/lists/com-attach/41-lcfsupdate2023-B2QGYQZrU2VRIwhr.pdf

Original File Name: CalETC comment letter LCFS Board hearing Sept 2023 vF.pdf

Date and Time Comment Was Submitted: 2023-09-28 16:11:59

No Duplicates.

Comment 39 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Pam
Last Name: Brigg McKown
Email Address: pambrimck@gmail.com
Affiliation: Climate Action California

Subject: LCFS
Comment:

The production of crop-based biofuels uses too much land, water and harmful chemicals to justify the subsidies it receives. We at Climate Action California (CAC) support removing corn ethanol and biomass-based diesel from california's LCFS program. This could help to reduce the amount of corn and soybeans produced by monoculture farming in the US, and increase the amount of rural land set aside for conservation or for organic or diversified farming. These changes could help to mitigate the climate, groundwater and biodiversity crises our rural areas are currently facing.

The outsized negative effects of federal and state subsidies for crop-based biofuels are highlighted below.

1. Crops grown for the production of ethanol (corn) and biodiesel and renewable diesel (soybeans) cover about 20% of the entire cropland acreage in the US. According to the USDA's 2017 Census of Agriculture (results from the 2022 Census are not yet available) 320 million acres of cropland were harvested in 2017. Over half of the harvested acres were planted in either corn (almost 91 million acres) or soybeans (90 million acres). According to the USDA's Economic Research Service 45% of corn harvested in the US is used to produce ethanol and about 21% of soybeans harvested in the US is used to produce biofuels. Hence, about 41 million acres are being used annually to grow corn to produce ethanol and 19 million acres to grow soybeans for biodiesel or renewable diesel, suggesting that 60 million acres, almost one fifth of cropland, is being used to grow crops for biofuels.

2. Corn and soybeans grown to produce biofuels are major contributors to the pollution of ground and surface water.

Fertilizers are responsible for substantial ground and surface water pollution. The Farm Bureau estimates that about half of the fertilizer (nitrogen, phosphate and potash) consumed annually in the US is used to grow corn, another 10% is used to grow soybeans. This suggests that 22% of the all the fertilizer used on crops in the US is used for corn to produce ethanol, and over 2% is used for soybeans to produce biofuels, i.e. almost one fourth of synthetic fertilizer use in the US is used on crops grown to produce biofuels.

In addition, recent USDA NASS Chemical Use Surveys showed that corn farmers applied almost 2 pounds of herbicides per acre in 2021 and soy farmers almost 1.5 pounds of herbicides per acre in 2020. Corn

and soy have traditionally been the greatest users of pesticides per acre (including insecticides and fungicides as well as herbicides).

3. Corn and soybeans grown to produce biofuels are major contributors to nitrous oxide greenhouse gas emissions.

According to the EPA nitrogen fertilizers (synthetic and organic) are responsible for the majority of US nitrous oxide (N2O) emissions (which have a 100 year GWP of 265). On average, corn uses 246 pounds of fertilizer per acre of which 143 pounds (almost 60%) is nitrogen fertilizer, according to the USDA NASS Agricultural Chemical Use Survey of 2021, while soybeans use 70 pounds of fertilizer per acre of which only 5.5 pounds (8%) is nitrogen fertilizer, according to the USDA NASS Agricultural Chemical Use Survey of 2020.

4. Corn and soybeans grown to produce biofuels are major contributors to the unsustainable withdrawal of water from US aquifers.

The 2017 Census of Agriculture reported that 54 million acres of cropland were irrigated in 2017. (See Historical Census Table 1: 2017 and earlier years, NASS, USDA) The crop with the most irrigated acreage was corn which accounted for 12 million acres of irrigated cropland. Soy acreage was second with 9 million acres irrigated. This suggests that 5.4 million acres of corn were irrigated to produce ethanol and 1.9 million acres of soy were irrigated to produce biofuels; or 13.5% of total irrigated acreage was used to produce biofuels. Increasingly, the source of water for irrigation is groundwater rather than surface water. As droughts are forecast to increase, the US will need to rely more on irrigation for both corn and soybeans. The Ogallala-High Plains Aquifer extends from South Dakota to Texas and provides water for eight states, but it is being depleted at an unsustainable rate. Irrigation is responsible for 90% of Ogallala groundwater withdrawals.

5. The production of ethanol, biodiesel and renewable diesel from corn and soybeans are also major users of water. The production of ethanol is more water intensive than the production of gasoline, requiring 3 gallons of water for every gallon of ethanol produced, compared to 2-2.5 gallons for gasoline. Most ethanol producers are located in the Midwest and rely on the Ogallala-High Plains Aquifer for their water needs.

6. Corn and soybeans grown to produce biofuels are major contributors to the worsening biodiversity crisis in rural areas.

The massive use of corn and soy output for biofuel production in the US has fostered a monoculture system of farming in the US which has degraded soils and eliminated complex insect, bird and plant communities. Not only has this monoculture system reduced soil fertility it has reduced the ability of the ground to absorb water either for crops or aquifer recharge. Since corn and soy farmers do not require pollinators to produce their crops, the loss of bees and other pollinators in rural areas has not been a large concern to them, but has been a problem for other farmers. Crop-based biofuels and the monoculture they have encouraged have contributed mightily to the destruction of nature in our rural areas.

7. Corn and soybeans grown to produce biofuels have been

responsible for increasing global food prices in developing countries.

Corn, soybeans, ethanol, biodiesel and renewable diesel, like gasoline and diesel, are commodities that are widely traded in global markets. Corn and soybean oil prices influence the prices of their close substitutes which tend to be interchangeable for animal feed and human food. A 2008 World Bank study attributed the rapid increase in internationally traded food prices from 2002 to 2008 to EU and US policies that resulted in large increases in the production of corn ethanol and soy biodiesel. The IMF index of internationally traded food commodity prices increased 130% over this period. From 1/2005-6/2006 maize (corn) prices almost tripled, wheat prices increased 127%, soybean oil prices increased 192% and other vegetable oil prices increased by similar amounts. The World Bank study concluded that 70-75% of the increase in food commodity prices from 2002-2008 was due to the rapid increase in crop quantities used to produce biofuels over this period. Needless to say, the increase was devastating for the poor in developing countries who spend half their household income on food.

More recently, as renewable diesel production in the US has rapidly grown, soybean oil prices have increased rapidly. According to Statista global soybean oil prices almost doubled from 2020 to 2022. The American Enterprise Institute recently attributed the large increase in all vegetable oil prices to the recent growth in renewable diesel production in the US. There is no doubt about the existence of a clear and substantial the link between crop-based biofuel production and higher food prices .

8. Almost all gasoline in the US is E10 (10% ethanol). Recently, the average content of ethanol in gasoline reached 10.5%. If the federal volume mandate for conventional renewable fuel (corn ethanol) and inclusion of corn ethanol in California's LCFS program were eliminated, it is difficult to estimate what blend rate for ethanol would result. By 2006-2007 ethanol had mostly replaced MTBE as an oxygenate for gasoline. The Clean Air Act requires that an oxygenate be added to gasoline to reduce carbon monoxide emissions in the winter in areas where carbon monoxide levels tend to increase. Hence even without a mandate ethanol would be added to gasoline as an oxygenate and because it increases the octane level. Nevertheless, in 2006 the RFS required that 4 billion gallons of ethanol be added to the almost 140 billion gallons of gasoline consumed for a blend rate under 3%. European drivers use mostly E5. It costs more to produce a gallon of ethanol than a gallon of gasoline. Thus, over time it seems reasonable to assume that more than half the land (21 million acres) harvested for corn to produce ethanol could become available for conservation or for growing crops for food or feed.

9. Much petroleum diesel fuel sold in the US contains at least 1% biodiesel because its lubricating properties prolong the expected life of some engine parts. However, the average biodiesel content of petroleum diesel is well under 5% and biodiesel producers struggle to make a profit without the federal blender's credit of $1.00 and additional state credits like California's Low Carbon Fuel Standard (LCFS) credit. Should the federal government end its biomass-based diesel volume mandates and its blenders credit and vegetable oils for biodiesel and renewable diesel be removed from California's LCFS program, one would expect substantial reduction in soybean acreage planted for biofuels in the US.

10. It is important to remove both corn ethanol and soy-based biodiesel and renewable diesel from California's LCFS at the same time. If only corn is removed, industrial corn farmers may just switch production to soybeans for renewable diesel or biodiesel. This would not solve any of the soil degradation, biodiversity crisis, water pollution or groundwater supply problems to which these biofuel crops have contributed.

11. We find CARB references to tallow and used cooking oil (UCO) as waste products misleading. Tallow is used as cooking oil and as an ingredient to soap, candles, salves, and lubricants. Used cooking oil is used as an animal feed and to make soap. Using tallow and UCO to produce biodiesel or renewable diesel requires the substitution of vegetable oils in the production of these other products. When this occurs, more crops must be grown.

The global supply of tallow and UCO tends to grow very slowly. Also, it is relatively easy to disguise vegetable oil as UCO and practically impossible to set up and enforce certification programs that ensure this is not occurring. Providing larger credits for UCO and tallow creates incentives for this type of fraud. We recommend that the LCFS adopt measures similar to ones the EU has adopted to deal with these problems: institute caps on the amount of UCO eligible for biofuel credits and ban edible tallow. Also noteworthy, is the EU's goal of reserving all UCO and tallow for sustainable aviation fuel by 2030.

12. We recommend that CARB thoroughly study the EU-commissioned Global Biosphere Management Model (Globiom model) which led the EU to cap targets for crop-based biofuels at 2020 levels. The Globiom report concluded that "palm and soy based biodiesel have LUC (land use change) emissions that exceed the full life cycle emissions of fossil diesel" even before adding direct emissions for soy or palm based biodiesel. This is because soybeans and palm are often grown in the tropics and this is where most new agricultural land is being developed. Vegetable oils are traded on global markets. When soy oil prices double the way they have since 2020, largely because of the expansion of renewable diesel production in the US, soybean producers, especially in Brazil (the largest producer of soybeans) and neighboring South American soybean producers increase their efforts to create new farmland. Clearly the assumptions and structure of the GTAP model that CARB is using to calculate LUCs associated with vegetable oil-based diesel is very different from those of the Globiom model.

13. We think the approach used in a recent PNAS study which used actual land observations, biophysical models and partial equilibrium analysis is more appropriate for analyzing the effects of crop-based biofuels on greenhouse gas emissions than the emissions factors, trade model and general equilibrium approach CARB is currently using. We note that this recent PNAS study on the environmental outcomes of the US Renewable Fuel Standard found that even modest changes in land use in US agriculture from 2006-2016 resulting from crop changes for increased biofuel production had considerable negative environmental effects. As a result, the study found the carbon intensity of corn ethanol to be definitely no less than gasoline and more likely 24% higher. It is impossible to have confidence in the carbon intensity numbers developed by CARB for crop-based biofuels because of the long standing disagreement over whether these carbon intensities are greater or lower than those of fossil fuels. The methodology used by CARB to calculate the carbon intensities of crop-based fuels

does not help. Consider the many environmental problems of monoculture corn and soy farms in the US for which the federal RFS and California state LCFS share responsibility. It is time to remove crop-based biofuels from California's LCFS.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-09-28 16:45:39

No Duplicates.

Comment 40 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Christine
Last Name: Ball-Blakely
Email Address: cblakely@aldf.org
Affiliation:

Subject: ALDF Comments
Comment:

Please see attached comments.

Attachment: www.arb.ca.gov/lists/com-attach/44-lcfsupdate2023-BzVQZl1uB2dVfldn.pdf

Original File Name: 2023-09-28 - ALDF Comments.pdf

Date and Time Comment Was Submitted: 2023-09-28 16:48:43

No Duplicates.

Comment 41 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Kiki
Last Name: Velez
Email Address: kvelez@nrdc.org
Affiliation: NRDC

Subject: NRDC Comments on September 28 Board Meeting
Comment:

Attachment: www.arb.ca.gov/lists/com-attach/45-lcfsupdate2023-AG5QJFA1UWEDWgkw.pdf

Original File Name: NRDC 9-28 Board Meeting Comments (1).pdf

Date and Time Comment Was Submitted: 2023-09-28 17:07:00

No Duplicates.

Comment 42 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Akashdeep
Last Name: Singh
Email Address: asingh@ucsusa.org
Affiliation: Union of Concerned Scientists

Subject: LCFS Comment
Comment:

Good morning Chair and Members.

My name is Akashdeep Singh and I am speaking on behalf of Union of Concerned Scientists. We have been a long time supporter of the LCFS and have been involved in its implementation for more than 15 years. The LCFS provides vital support for transportation electrification which will be key to achieving CARB's other critical regulations.

However, we are here today in solidarity with many of the environmental and environmental justice organizations you have heard from today to urge CARB to modernize the LCFS to ensure it equitably meets the needs of Californians and supports the attainment of air quality standards.

First, the drop in credit prices that precipitated this process came from a glut of renewable diesel credits. CARB must place a hard cap on the share of compliance from lipid-based biofuels to the LCFS in balance. The current proposal to simply increase stringency and would result in worse economic consequences with fewer environmental benefits.

Further, avoided methane credits for dairies must be phased out more quickly than staff is proposing. CARB should instead seek to regulate methane emissions from dairy's as soon as they are legally allowed to do so next year.

California must continue steadfastly moving away from combustion in the transportation sector. The LCFS can play a key role in this transiton, but if there are not significant changes to the current proposal, the LCFS would not live up to that promise and could even be counterproductive.

Thank you so much!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2023-09-28 17:05:25

No Duplicates.

Comment 43 for Public Meeting to Hear an Update on the Low Carbon Fuel Standard (lcfsupdate2023). (At Hearing)

First Name: Fatima
Last Name: Iqbal-Zubair
Email Address: fatima@envirovoters.org
Affiliation: California Environmental Voters

Subject: LCFS reform is urgently needed
Comment:

The CARB Board should direct staff to incorporate the policy changes identified in the first resolution adopted by the permanent Environmental Justice Advisory Committee. The EJAC carefully considered the issues and invested its time, expertise, and energy to provide thoughtful recommendations to address the environmental injustice inflicted by the LCFS. Your leadership now is desperately needed. CARB staff have been ignoring EJ organizations' credible LCFS issues for two years now. Prioritizing environmental justice as CARB has proclaimed it does actually means far, far more than giving EJ leaders a seat at the EJAC table while ignoring their well-founded recommendations. As it stands, EJ communities are at the table at EJAC and here today, but we are still on the menu. The CARB Board must provide leadership and direct staff to incorporate the EJAC's resolution into the proposed regulations. Otherwise, it is clear that the LCFS will sacrifice environmental justice communities for factory farm gas and hydrogen production.

Factory farm gas is not clean. It is not clean to produce, it is not clean to combust, and it does not produce clean hydrogen. Factory farm gas production harms rural communities in the San Joaquin Valley while SMR hydrogen that uses factory farm gas harms communities near refineries.

The LCFS is headed toward an environmental justice and economic justice disaster. The CARB Board should direct staff to minimize the pass-through cost by stopping the lavish avoided methane crediting fiction and allowing generation of junk credits for already-required methane reductions.

There is no proof that digesters even do what they are supposed to do. In fact, recent monitoring data show that digesters don't measurably reduce methane emissions from dairy farms. Moreover, a peer reviewed study showed that manure digestate increased nitrous oxide emissions, largely canceling out any methane reductions.

The SRIA does not reflect recommendations raised by the EJ community with the exception of aviation fuel. The SRIA did not analyze an EJ Alternative. A broad coalition of EJ groups submitted comments after the November 9, 2022 workshop asking for policy changes and those policy changes were not included as alternatives in the SRIA. A Stanford study modeled the EJ Alternative and found it effective and efficient, and CARB staff willfully ignored this study in refusing to analyze the EJ Alternative. CARB staff should acknowledge that they propose no policy changes to correct the abuse of factory farm gas in the LCFS.

CARB must end avoided methane crediting in 2024. Since 2018, the LCFS has lavishly rewarded factory farm gas producers with "avoided methane crediting." This fiction allows factory farm gas producers to create massive amounts of credits because of absurdly negative carbon intensity values for factory farm gas fuels. A faulty assumption is that liquefied manure emitting methane is an unavoidable component of raising animals; the fact is that cry manure management techniques allow manure to decompose naturally, preventing the vast majority of methane production from manure in the first place. Another way of saying this - CARB is rewarding liquefied manure management by providing its most lavish financial incentive to livestock operations that choose to use the most polluting form of manure management and then purport to capture the pollution they intentionally created when they choose liquefied manure management. CDFA finds that dry manure management could reduce methane emissions by more than 90 percent.1 But CARB has failed to consider alternative manure management as a SB 1383 regulatory pathway to preventing and reducing methane emissions from the state's dairy and livestock operations. CARB staff concede that this assumption is faulty, and propose to phase out avoided methane crediting between 2030 and 2040, 16 years from now. They have argued that we need the long time-line to avoid stranded assets. Won't more lavish subsidies lead to more "stranded assets?" Is the real reason that staff wants to ensure a hefty profit to those who have invested in this dirty fuel? The following are absurd results: 1) factory farm gas - chemically equivalent to conventional natural gas - is considered orders of magnitude "cleaner" under the current LCFS than solar or wind. 2) CARB staff plan to use factory farm gas for hydrogen production since it has no future as a transportation fuel. CARB staff plan much of that hydrogen for hard to decarbonize stationary sources and it makes no sense for this transportation fuel program to serve that purpose. 3) Refineries buy the environmental attributes of factory farm gas (i.e. it's purported carbon negativity) to make gray fossil hydrogen production, which uses steam methane reformation (SMR), look "greener." That hydrogen is considered much less carbon-intense than solar-powered, zero combustion, electrolytic hydrogen.

The LCFS currently allows factory farm gas producers to sell junk credits for reductions that have already happened. The LCFS allows credits for methane reductions at factory farms even when those factory farm gas projects have already been compensated for and / or are already required to achieve those same reductions. This needs to change!

CARB has a duty and the regulatory authority under Senate Bill 1383 (Health & Safety Code § 39730.7(b)) to adopt regulations that reduce methane emissions from liquified manure at industrial dairy and swine operations, and CARB should start that regulatory process now. SB 1383 requires CARB to reduce methane from manure management by 40% from 2013 levels by 2030. It makes perfect sense why there is no oil industry or dairy industry opposition here today. They are getting a sweetheart deal when the dairy industry can sell overvalued junk credits, the oil industry buys the credits and keeps on selling their fossil fuels, and then the oil industry passes on the full cost of all these credits to the public at the gas pump. After 2030, that regressive pass-through cost will average $1.15 per gallon borne disproportionately by low-income Californians according to CARB's own data on pages 57-59 in the SRIA.

It is clear that CARB staff want to keep dirty factory farm gas in the LCFS to promote its development and future use for hydrogen production. The CARB board should ensure that hydrogen production does not rely on or benefit from dirty factory farm gas or other dirty fuels that exacerbate environmental harms.

Staff appears more concerned with protecting profits for producers of and investors in factory farm gas than achieving actual and substantial environmental benefits through the LCFS. Our flagship climate and transportation programs should be solely focused on improving air quality, greenhouse gas reductions, and environmental justice. Ensuring a return on investments and protecting lavish subsidies is not and should not be part of CARB's mission. Unfortunately it seems to be in this program.

The false assumption that hydrogen produced from factory farm biogas is "carbon negative" is kneecapping the market for truly clean hydrogen because it allows hydrogen producers who use biomethane to get much bigger subsidies than companies that produce zero-emission hydrogen from solar and wind. It's outrageous that the LCFS gives the biggest hydrogen subsidies to industries that pollute California's disadvantaged communities. Unfortunately CARB staff proposes using the LCFS - and the falsely claimed negative carbon biomethane - to subsidize the growth of dirty hydrogen beyond uses of transportation fuel.

Residents living near bio-fuel refineries suffer from significant air, water, and soil pollution, as well as odors. The communities that have borne the brunt of oil refinery pollution for decades should not have to suffer from a buildout of new biofuel refining infrastructure. Even if you thought increasing production of biofuels would be a good thing, it's not clear the LCFS is even accomplishing that goal. In recent years, sales of biodiesel and renewable diesel have surged in California, with commensurate declines in other states. This suggests that the oil companies are just moving biofuels to California that the federal Renewable Fuel Standard required them to sell anyway - a strategy that boosts the oil companies' profits while providing zero climate benefit.

Direct air capture (DAC) is not a transportation fuel, and it has no place in the LCFS. CARB staff proposed in the SRIA to include DAC crediting for any DAC project in the U.S. For most of the LCFS, only materials that directly impact transportation fuels in California are included; this exception for DAC does not make sense.

The only argument in favor of expensive and inefficient DAC is that we will struggle to get to net zero without carbon removal to offset the hardest to decarbonize industries. Transportation fuels are relatively easy to decarbonize, so DAC has no place in this sector.

If DAC is credited under LCFS, then it is essentially allowing carbon removal to be used as a means of reducing our ambition on direct emission reductions because it would generate credits to support the combustion of fossil fuels.

DAC is very expensive, energy intensive, and inefficient. It is far more efficient to stop burning fossil fuels and replace them with electricity from clean renewable energy. Including DAC in the LCFS is an utter waste of carbon removal.

DAC has a great deal of uncertainty and risk. Storage may fail. Studies of geologic storage have asked the wrong questions and leave great uncertainty about leaks. The industry's shining examples of success in Norway's Sleipner and Snøhvit facilities are actually cautionary tales, as a recent report demonstrated. The report's topline conclusions were:

Sleipner and Snøhvit demonstrate carbon capture and storage is not without material ongoing risks that may ultimately negate some or all the benefits it seeks to create.

Every project site has unique geology, so field operators must expect the unexpected, make detailed plans, update the plans and prepare for contingencies.

Ensuring storage is securely maintained implies a high level of proactive regulatory oversight, activities for which governments may not be adequately equipped.

Sleipner and Snøhvit cast doubt on whether the world has the technical prowess, strength of regulatory oversight, and unwavering multi-decade commitment of capital and resources needed to keep carbon dioxide sequestered below the sea - as the Earth needs - permanently.

Leaked carbon forms carbonic acid in the presence of water. Carbonic acid infiltrating groundwater and surface water does not present direct drinking water risks, but it does risk spoiling irrigation because plants tend to suffer when bathed in acid. DAC in California will be paired with geologic carbon storage in the nation's most productive agricultural lands, lands which are already parched under the strains of poor water management and climate change. We cannot responsibly risk acidifying the water and adding to the drought.

Carbonic acid carries heavy metals like arsenic and risks spoiling groundwater and surface water for drinking water in addition to risking irrigation supplies. Arsenic and other heavy metals are potent poisons.

Insofar as DAC facilities rely on or incorporate carbon pipelines, they present risks of mass fatality events when a pipeline ruptures because carbon dioxide is a toxic asphyxiant that, when concentrated for transport, is heavier than air and has a tendency to sit where it is leaked to create a poisonous cloud that is deadly within minutes of exposure and that repels first responders dependent on gas-powered vehicles like ambulances.

If DAC relies on carbon-intensive energy sources, it is a net source of carbon. If it is a net source of carbon, it is the worst sort of boondoggle.

If DAC relies on solar or wind energy with storage, it risks depriving the grid of those energy supplies. Considering how inefficient DAC is, DAC must only rely on clean renewable energy with storage behind the meter to prevent that result.

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