

**Supplemental
Responses to Comments**

on the

**Low Carbon Fuel Standard
Regulation**



Released September 24, 2015

to be considered at the

September 25, 2015 Board Hearing

I. SUMMARY OF COMMENTS AND AGENCY RESPONSE

Written and oral comments were presented at the Board Hearing.

Comment Code	Comment Period Received
SB	Second Board hearing comments received as written materials September 24, 2015
ST	Second Board hearing testimony September 24, 2015

The comment letters were coded by the order and the comment period in which they were received, and also tagged LCFS, and the name of the organization or individual commenting. One comment letter was directed at both the LCFS rulemaking and the Alternative Diesel Fuel (ADF) rulemaking. The comments directed at the LCFS rulemaking are responded to below. The comments directed at the ADF rulemaking are responded to in the ADF Final Statement of Reasons.

Comment Letter Code	Commenter	Affiliation
1-SB-LCFS-GE	John Kinsey	Growth Energy
2-SB-LCFS-Alon	Gary Grimes	Alon USA
3-SB-LCFS-NGO	Bonnie Holmes-Gen	American Lung Assoc. for several NGOs
4-SB-LCFS-A4A	Tim Taylor	Airlines for America
1-ST-LCFS-SCAQMD	Henry Hogo	SCAQMD
2-ST-LCFS-GPS	Jerry O'Donnell	Glass Point Solar
3-ST-LCFS-CBA/NBB	Russ Teall	CBA/NBB
4-ST-LCFS-Neste	Dayne Delahoussaye	Neste
5-ST-LCFS-GE	John Kinsey	Growth Energy
6-ST-LCFS-EGRS	Donald B. Gilbert	Edelstein Gilbert Robson and Smith
7-ST-LCFS-WSPA	Tiffany Roberts	Western States Petroleum Assoc.
8-ST-LCFS-A4A	Tim Taylor	Airlines for America
9-ST-LCFS-CalStart	John Boesel	CalStart
10-ST-LCFS-Kern	Melinda Hicks	Kern Oil and Refining Co.
11-ST-LCFS-NexGen	Colin Murphy	NexGen Climate America
12-ST-LCFS-CRNG	Johannes Escudero	Coalition for Renewable

Comment Letter Code	Commenter	Affiliation
		Natural Gas
13-ST-LCFS-WM	Chuck White	Waste Management
14-ST-LCFS-NRDC	Simon Mui	Natural Resources Defense Council
15-ST-LCFS-CANGV	Tim Carmichael	California Natural Gas Vehicle Coalition
16-ST-LCFS-LCFC	Graham Noyes	Low Carbon Fuels Coalition
17-ST-LCFS-ALAC	Bonnie Holmes-Gen	American Lung Association of California
18-ST-LCFS-CMUA	Anthony Andrioni	California Municipal Utilities Corporation.
19-ST-LCFS-UA	Kathleen Van Osten	United Airlines
20-ST-LCFS-SCC	Diane Vasquez	Sierra Club California
21-ST-LCFS-AJW	Christopher Hessler	AJW, inc.
22-ST-LCFS-CE	Ryan Kenny	Clean Energy
23-ST-LCFS-UCS	Jason Barbose	Union of Concerned Scientists
24-ST-LCFS-Proterra	F. Kent Leacock	Proterra
25-ST-LCFS-Alon	Gary Grimes	Alon USA
26-ST-LCFS-CalETC	Eileen Tutt	California Electric Transportation Coalition

A. COMMENTS RECEIVED DURING THE SECOND BOARD HEARING, SEPTEMBER 24, 2015

Four comment letters were received during the September 24 board hearing.

1_SB_LCFS_GE Responses

1. Comment: **LCFS SB1-1, LCFS SB1-2, LCFS SB1-8, LCFS SB1-11 through LCFS SB1-13**

Agency Response: The responses to these comments are in “Supplemental Responses to Comments on the Draft Environmental Analysis for the Low Carbon Fuel Standard and Alternative Diesel Fuel Regulations.”

2. Comment: **LCFS SB1-3**

The commenter submitted a compact disc purporting to include the entire administrative record of proceedings in a lawsuit filed in 2009, *POET v. CARB*, Superior Court, Fresno County, Case number 09-CECG-04659. The commenter’s stated purpose is to ensure that the 2009 LCFS rulemaking file is part of the 2015 LCFS rulemaking file.

Agency Response: The submittal is not an objection or recommendation specifically directed at the proposed LCFS or the procedures followed by ARB in considering the 2015 LCFS. The compact disc will be placed into the LCFS rulemaking record as requested.

3. Comment: **LCFS SB1-4**

This comment expresses surprise that an estimate of natural gas usage in transportation was not determined based on the number of NGVs in future, additionally raising concern about the validity of ARB’s compliance scenario, the EA, and the economic assessment.

Agency Response: The estimates of the natural gas volumes for the illustrative compliance scenario were based on extensive conversations with stakeholders; review of data, and with an understanding of natural gas trends. Please see **LCFS TF2-24**. Additionally, comments related to concerns about economic assessments were addressed in response **LCFS TF2-10**. Comments related to environmental analyses were addressed in response **LCFS TF2-11**.

4. Comment: **LCFS SB1-5**

The commenter stated that LCFS credits generated by ZEVs would contribute significantly to the total credits generated by gasoline substitutes, yet ARB allows “approximate” methods to generate such credits, which would lead to fictitious LCFS credits that in turn would reduce the environmental benefits of the LCFS regulation.

Agency Response: See response to **LCFS SB1-9** and **LCFS SB1-10**

5. Comment: **LCFS SB1-6**

The commenter raised questions about the LCFS credits generated by electric forklifts and “fixed guideway” systems. The commenter believes that for electric forklifts, ARB allows estimation by the Electric Distribution Utilities in generating credits, which the commenter believes could lead to fictitious LCFS credits. And, allowing credit generation for the use of electric forklifts and “fixed guideway” systems is fundamentally inconsistent with the treatment of other alternative fuels, since electricity was used in such applications in 2010. In order to be consistent, ARB should establish a 2010 baseline gasoline carbon intensity value excluding ethanol.

Agency Response: With respect to the calculation and credit of electric forklifts and fixed guideway systems, see response to **LCFS 38-21**.

Staff’s proposal adjusts the credit calculations for existing applications to account for the exclusion of the pre-LCFS off-road electricity applications in 2010 baseline. Allowing credit generation for electric forklifts and fixed guideway systems where electricity was already being used in these applications in 2010 does not justify the establishment of a 2010 baseline of gasoline CI without ethanol.

6. Comment: **LCFS SB1-7**

The commenter stated that if ARB proceeds without excluding ethanol from 2010 gasoline baseline, ARB must also eliminate the provisions of LCFS credits for electricity that was being used as transportation fuel in 2010, unless ARB can significantly demonstrate that LCFS results in increased use of electricity in forklifts and fixed guideway systems relative to 2010 level.

Agency Response: Staff does not agree with the commenter’s assertion that ARB must eliminate electricity provisions for electric forklifts and fixed guideways. See responses to **LCFS SB1-6**, **LCFS 38-21**, and **LCFS SB1-18** for ARB’s rationale for including these credits.

7. Comment: **Exhibit A to Declaration of James M. Lyons**

James Lyons’ Resume

Agency Response: This is submittal seven or eight of James Lyons’ resume. It does not constitute an objection or suggestion on the proposal.

8. Comment: **Exhibit B to Declaration of James M. Lyons**

Letter from Elaine Meckenstock to Growth Energy

Agency Response: This letter does not constitute an objection or suggestion on the proposal.

9. Comment: **LCFS SB1-9 and LCFS SB1-10**

The commenter stated that LCFS credits generated by ZEVs would contribute significantly to the total credits generated by gasoline substitutes, yet ARB allows “approximate” methods to generate such credits, which would lead to fictitious LCFS credits that in turn would reduce the environmental benefits of the LCFS regulation.

Agency Response: The LCFS program uses a thorough calculation methodology for all fuels. The response to **LCFS 32-11** describes the methodology for electric vehicles. Regarding the comment on ARB’s continued funding of ZEV recharging research, is simply again consistent with ARB’s efforts to continue to better understand the use of all fuels.

10. Comment: **LCFS SB1-14 through LCFS SB1-16**

The comment expresses concern about the agency’s proposal to assign “bins” to CIs for Tier 1 fuels.

Agency Response: See response to comment **LCFS 46-95**. The comment is not relevant to the current proposal.

11. Comment: **LCFS SB1-17**

The comment expresses concern that the analysis to determine the CI of the U.S. average electricity grid might be more or less detailed than California’s grid, and that internal ARB-developed fuel pathways will not be reviewed as rigorously as the facility-specific CI values to be determined by CA-GREET2.0.

Agency Response: The source and method of calculating the CI of U.S. average and California electricity mix are identical and are documented in Appendix C of the proposed regulation.

With regard to the internal ARB-developed fuel pathways, the comment states “In contrast [to the Method 2A/2B applications reviewed and approved for corn ethanol] all of the CI values currently available for Brazilian sugarcane ethanol are based on ARB’s internal pathways derived from the limited number of life-cycle analyses available in the technical literature.... the lack of Method 2A/2B applications for

sugarcane ethanol ... suggests that the CI values assigned by the ARB internal pathways are lower than those that would be assigned based on facility-specific data...”

The comment is not relevant to the current proposal as the internal ARB-developed fuel pathways mentioned have been removed from the proposed regulation and are no longer available for use. The comment is referring to internal ARB-developed fuel pathway values available for use in the Lookup Table. The 2009 Lookup table contained corn and sugarcane ethanol CI values, but all forms of ethanol have been removed from the current proposed Lookup Table (see the proposed regulation order, Table 6. Tier 2 Lookup Table for Gasoline and Diesel and Fuels that Substitute for Gasoline and Diesel). The CI values for these fuel pathways will now be calculated based on facility-specific data using the CA-GREET2.0 model.

12. Comment: **LCFS SB1-18**

This comment questions the selection of a 2010 90% CARBOB and 10% ethanol mix as a “gasoline baseline” instead of defining the starting point for the program targets as a pure hydrocarbon fuel. The comment also states that inclusion of ethanol in the gasoline baseline penalizes ethanol and recommends removing ethanol from this baseline.

Agency Response: Staff interprets this comment’s “gasoline baseline” terminology to refer to the value used as a starting point to create Table 1 of the regulation (rather than to any reference to assumptions in the Environmental Analysis). With respect to the values in Table 1, Staff has been explicit in the current rulemaking in explaining the reference point selected to create these values. The slight changes to this value (relative to the rule in place prior to this rulemaking) are explained through the “Explanation of Modifications to the 2010 Carbon Intensity Portion of the California Reformulated Gasoline Related to Ethanol Content.” This document added to the rulemaking record through the June 4th, 2015 first 15-day change notice and in the clarifying footnotes added to Table 1 in the rule.

This “gasoline baseline” is used to create the program targets and the targets in Table 1 are used uniformly to assign credits to all low carbon fuels that displace gasoline. The commenter would prefer to see different targets constructed from an alternative set of assumptions but, after a robust stakeholder process, ARB chose not to take this suggestion. Further, these targets do not disadvantage one fuel relative to another. All fuels that displace gasoline are scored based on their carbon intensity and compared to the targets in Table 1. We note that ethanol has been the largest source of credits in the program so far.

13. Comment: **LCFS SB1-19**
Repeats **LCFS 46-86** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-86**.
14. Comment: **LCFS SB1-20**
Repeats **LCFS 46-87** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-87**.
15. Comment: **LCFS SB1-21**
Repeats **LCFS 46-88** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-88**.
16. Comment: **LCFS SB1-22**
This is the same comment as **LCFS 46-88**. In addition, the commenter includes text from the Tyner and Taheripour 2013 Science Paper to rationalize the need to incorporate the new nesting structure.
Agency Response: See response to **LCFS 46-88**.
17. Comment: **LCFS SB1-23**
Repeats **LCFS 46-89** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-89**.
18. Comment: **LCFS SB1-24**
Repeats **LCFS 46-90** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-90**.
19. Comment: **LCFS SB1-25**
Repeats **LCFS 46-91** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-91**.
20. Comment: **LCFS SB1-26**
Repeats **LCFS 46-92** submitted during the 45-day comment period.
Agency Response: See response to **LCFS 46-92**.

21. Comment: **LCFS SB1-27**

Repeats **LCFS 46-93** submitted during the 45-day comment period.

Agency Response: See response to **LCFS 46-93**.

22. Comment: **LCFS SB1-28**

Repeats **LCFS 46-94** submitted during the 45-day comment period.

Agency Response: See response to **LCFS 46-94**.

23. Comment: **LCFS SB1-29**

This is a modification of comment **LCFS 46-94** with additional GTAP runs and results using a different version of the model (provided by Purdue to Air Improvement Resource, labeled EBB-GTAP). The commenter supports the inclusion of irrigation impacts in the model but does not support incorporating 'inaccessible forest' in the model. The commenter points out that ARB is not considering the inclusion of accessible cropland/pasture in Canada, the EU27, and other regions.

Agency Response: It does not appear that the commenter is using or commenting on the current model being considered for the proposed re-adoption. That is highlighted by the fact that the commenter supports the inclusion of irrigation impacts in the GTAP model. The *current* version of ARB's GTAP model already includes irrigation impacts. Furthermore, the *current* model includes the nesting feature being suggested by the commenter. Therefore, staff considers the results presented as irrelevant to the current proposal.

To provide additional clarification, response to ARB's GTAP model and modeling of iLUC emissions is provided in response to **LCFS 8-1**. For comments related to the nesting structure and ETL1/ETL2 values, see responses to **LCFS 46-87** and **LCFS 46-88**. For Yield Price issues, see response to **LCFS 8-9**. For comment related to the inclusion of the CCLUB model, see response to **LCFS 46-16**. For comment related to CRP land, see response to **LCFS 46-110**.

The comment related to 'inaccessible forest' is irrelevant to the current round of rulemaking. Inclusion of new land cover data (cropland pasture) may be considered when data on land rents, quantity, etc. become available.

24. Comment: **LCFS SB1-30**

The commenter states that ARB's analysis used wrong modeling inputs (price-yield range and ETL1/ETL2 values) and does not use an updated

nesting structure. The commenter opines that if ARB used the relevant values and structure, iLUC for corn ethanol would be in the 8-12 g/MJ range and there would be corresponding reductions in iLUC emissions of other biofuels as well.

Agency Response: See responses to comments **LCFS SB1-29, LCFS 8-9, LCFS 46-87, and LCFS 46-88**. Staff has justified the inputs and structural modifications to the GTAP model and the iLUC values being proposed for consideration reflect the best data and updates to the science of land use change.

25. Comment: **Exhibit E to Declaration of James M. Lyons**

Low Carbon Standard Re-Adoption Concept Paper

Slides from ARB's April 3, May 24, and May 30, 2015 workshops

Agency Response: These submittals do not constitute an objection or suggestion on the proposal.

26. Comment: **LCFS SB1-31**

Repeats **LCFS 46-163** submitted during the 45-day comment period.

Agency Response: See response to **LCFS 46-163**.

2_SB_LCFS_Alon Responses

27. Comment: **LCFS SB2-1**

The commenter extends strong support of the Low Carbon Fuel Standard's provisions for Low Complexity-Low Energy Use Refiners.

Agency Response: ARB staff appreciates the support for the LC/LE provision.

28. Comment: **LCFS SB2-2**

The comment repeats comment **LCFS FF9-2**.

Agency Response: See response to **LCFS FF9-2**.

29. Comment: **LCFS SB2-3**

The commenter supports the policy recognizing that lower complexity refineries produce gasoline and diesel fuels using less energy per gallon than the larger complex refineries. The commenter supports the LCLE provision.

Agency Response: ARB staff appreciates the support for the LCLE provision.

30. Comment: **LCFS SB2-4**

The comment repeats comment **LCFS FF9-5**.

Agency Response: See response to **LCFS FF9-5**.

31. Comment: **LCFS SB2-5**

The comment repeats comment **LCFS FF9-6**.

Agency Response: See response to **LCFS FF9-6**.

32. Comment: **LCFS SB2-6**

The comment repeats comment **LCFS FF9-8**.

Agency Response: See response to **LCFS FF9-8**.

3_SB_LCFS_NGO Responses

33. Comment: **LCFS SB3-1**

The comment supports ARB's leadership on cleaning up transportation fuels and urges re-adoption of the LCFS.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

34. Comment: **LCFS SB3-2**

The comment provides additional information in support of the LCFS and states that California's leading climate and clean air policies like the LCFS are critical. Research demonstrates the health benefits from clean air policies like the LCFS and will reduce healthcare costs and lost work days.

Agency Response: ARB staff appreciates the information in support of adopting the LCFS regulation.

4_SB_LCFS_A4A Responses

35. Comment: **LCFS SB4-1**

The production of bio-jet is currently disincentivized in California because it is not eligible for LCFS credits. The LCFS unnecessarily distorts the biofuels market by favoring the production of renewable diesel over bio-jet, even though both fuels can be produced from the same facility and deliver comparable lifecycle GHG reductions. Indeed, as a result of the LCFS not crediting bio-jet, AltAir is reducing the total available production of renewable jet fuel for United and other airlines to purchase. Creating such disincentives for producers like AltAir (and thereby suppressing demand from airlines like United) is contrary to the GHG reduction goals of the LCFS and is inappropriate in light of the critical and unique role the airline industry can play in helping to obtain financing for advanced biofuel facilities through dedicated off-take agreements.

Rather than incentivizing facilities to produce renewable diesel instead of bio-jet, ARB should allow for credit from either renewable diesel or bio-jet and allow the market to determine where the fuel is allocated. This approach would result in equivalent environmental benefit, lend more certainty to ARB's fuel availability projects, eliminates concerns that the LCFS inhibits bio-jet production, and create additional compliance flexibility and cost-containment opportunities.

Crediting the voluntary production of bio-jet would not impermissibly regulate aircraft rules, but would simply create opportunities for airlines to support California's GHG objectives. Indeed, Oregon DEQ recently clarified that bio-jet is an eligible credit generating fuel under the Oregon Clean Fuels Program, which is also fully in-line with EPA's approach under the Renewable Fuel Standard.

A4A strongly urges ARB to similarly credit bio-jet fuels under the LCFS. Several other stakeholders have also previously urged ARB to do so, and ARB committed in the 2009 FSOR to explore this issue in both the 2011 and 2015 program reviews. Unfortunately, ARB has not yet done so, despite A4A comments last year noting this commitment. Given the strong interest in bio-jet in California, A4A believes the time is ripe for ARB to revisit this important issue.

Agency Response: We appreciate the suggestion to allow bio-jet fuel to opt into the LCFS program, and we look forward to continue exploring this concept with A4A, the airline industry, and other interested stakeholders. ARB staff has, in fact, been evaluating this concept and will continue to do so but were unable to develop the concept sufficiently for inclusion into this LCFS re-adoption proposal.

With that said, the commenter raises a number of issues that should be addressed.

First, ARB disagrees that the LCFS disincentivizes the production of bio-jet in California because bio-jet is not eligible for LCFS credits. The fact that bio-jet fuel is currently ineligible for generating LCFS credits does not, by itself, serve as a disincentive to produce bio-jet. Second, ARB disagrees the LCFS distorts the biofuels market by favoring the production of renewable diesel over bio-jet. Again, the lack of eligibility under the LCFS does not, by itself, serve as a disincentive to production. Indeed, there are a number of reasons that could drive a producer to favor production of bio-jet fuel over renewable diesel in the absence of the LCFS program. For example, airlines looking to secure a predictable source of fuel that is not subject to volatile crude oil price swings can enter into off-take agreements with bio-jet fuel producers.

Third, the commenter suggests that ARB should allow for credit from either renewable diesel or bio-jet. And the commenter suggests that crediting the voluntary production of bio-jet would not impermissibly regulate aircraft fuels and create opportunities for airlines to support California's GHG objectives. However, part of the challenge in allowing just the voluntary participation of bio-jet fuel - without a mandatory carbon intensity standard for jet fuel - is that it does not ensure transformation of the market served by renewable diesel (i.e., on-road and off-road mobile sources and equipment, portable equipment, stationary diesel engines, intrastate locomotives, and commercial harborcraft). The net result could be a lowering of the carbon intensity of the jet fuel pool and not the gasoline or diesel fuel pools. This is similar to a prior suggestion from another commenter that credits from outside the LCFS (e.g. forest offsets) be allowed into the LCFS program; while that may reduce GHGs, it would not ensure the transformation of the California fuel pool, which is a key policy objective for the LCFS beyond the mere reduction of GHGs. See response to **LCFS 25-1, LCFS 32-4 and LCFS 46-197**.

B. TESTIMONY RECEIVED DURING THE SECOND BOARD HEARING, SEPTEMBER 24, 2015

Twenty-six stakeholders testified at the September 24 board hearing. The transcript of the testimony is reproduced below with responses following.

1_ST_LCFS_SCAQMD

36. Comment: **LCFS ST1-1**

The comment supports the LCFS proposal and expressed enthusiasm for the co-benefits not only in reducing GHG emissions but also NOx emissions.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

2_ST_LCFS_GPS

37. Comment: **LCFS ST2-1**

The comment supports re-adoption of the LCFS regulation and appreciates work done in creating a streamlined and workable structure for projects that reduce carbon intensities by use of wind and solar energy. The updated LCFS also allows technology to reduce cost of producing fuels in California.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

3_ST_LCFS_CBA/NBB

38. Comment: **LCFS ST3-1**

The comment supports the re-adoption of the LCFS and sends a vote of certainty that renewables and low carbon fuels have a future in California.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

4_ST_LCFS_Neste

39. Comment: **LCFS ST4-1**

The comment supports the LCFS proposal with two additional comments. First, it is important to consider the broader issues associated with federal and global policies beyond California. Second, much of staff's resources have been dedicated to its re-adoption and

action tomorrow will allow staff to continue work towards program goals and targets.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

5_ST_LCFS_GE

40. Comment: LCFS ST5-1 and LCFS ST5-2

The witness broadly referred to written comments that are summarized and responded to elsewhere in this document. The witness noted his belief that ARB has not complied with a writ in *POET v. CARB* insofar as he believes that the rulemaking file is not complete, and ARB did not analyze the impacts of the 2009 LCFS. The comment urges ARB to not approve the LCFS regulation until it complies with the law.

Agency Response: The writ in *POET v. CARB* did not order ARB to analyze LCFS impacts using a 2009 baseline, but rather ordered ARB to comply with CEQA in re-adopting an LCFS. CEQA does not require, or may not allow, ARB to use a baseline of historic conditions, fixed in 2009, to analyze the environmental impacts of regulations that ARB anticipates implementing beginning in 2016. ARB has also fully complied with the Administrative Procedure Act and the *POET* court's writ in assembling its rulemaking file for the proposed LCFS.

6_ST_LCFS_EGRS

41. Comment: LCFS ST6-1

The comment supports testimony from the airline industry requesting credits for use of alternative fuels in aircrafts.

Agency Response: ARB thanks the commenter for the support of the LCFS and looks forward to working with the airline industry on future regulatory developments. See response to **LCFS SB4-1**.

42. Comment: LCFS ST6-2

The comment states they want to see airlines incentivized to use alternative clean fuels in aircrafts that would otherwise not have jurisdiction over. This would greatly contribute to the goals in reducing GHG emissions from airports.

Agency Response: ARB staff looks forward to working with the airline industry on future regulatory developments. See response to **LCFS SB4-1**.

7_ST_LCFS_WSPA

43. Comment: **LCFS ST7-1**

The comment states concern about many facets of the LCFS program and expresses serious doubts about its feasibility. A fundamental flaw is that it regulates fuel suppliers who have limited control over fuels and more importantly, have no control over vehicle availability, infrastructure availability, and consumer behavior.

Agency Response: Staff believes the program's targets are feasible. Please see response to **LCFS 38-1**.

44. Comment: **LCFS ST7-2**

The comment states continued concern about needless complexity of the regulation such as treating all crude the same. Also, the concern with the lack of a level playing field between electricity and other fuels, and the structure of the credit clearance market and cost containment mechanism. These amendments won't address the anticipated shortfall in the long run.

Agency Response: With respect to the concern about the treatment of crude please see response to **LCFS 32-10**. For concerns about fair treatment of electricity relative to other fuels see response to **LCFS 32-11**. With respect to the structure of the credit clearance market see response to **LCFS 32-9**. With respect to the overall feasibility of the targets please see response to **LCFS 38-1**.

45. Comment: **LCFS ST7-3**

The comment states that the program is still largely unproven with 90 percent of the regulatory obligation slated to occur in the last 50 percent of the program. They ask the Board to keep a careful eye on the health of the program. WSPA will also keep an eye on the program in a more formalized way, by release of a tool called the "LCFS Score Card." The score card will track volumes and carbon intensities as well as vehicles.

Agency Response: Staff believes the program's targets are feasible. The LCFS includes program reviews in future years. Please see response to **LCFS 38-1**. Staff looks forward to continued dialogue with the commenter about progress to achieve the programs targets.

46. Comment: **LCFS ST7-4**

The comment expresses hope that their oversight is useful and will share the LCFS Score Cards. The commenter also shares a quote that states that the LCFS does not increase emissions reductions but rather

shifts emissions across sectors. In short, the LCFS is contradictory not complementary.

Agency Response: Please see response to comment **LCFS 32-7**.

8_ST_LCFS_A4A

47. Comment: LCFS ST8-1

The comment requests that ARB include alternative jet fuel also known as bio-jet fuel as eligible credit-generating fuel under the LCFS. A4A Members are part of a global aviation coalition that has adopted aggressive GHG reduction goals. One key strategy to achieving these goals is the use of bio-jet but production of bio-jet is dis-incentivized in California because it is not eligible for LCFS credits. The LCFS unnecessarily distorts the biofuels market by favoring the production of renewable diesel over bio-jet even though both fuels deliver comparable life cycle GHG reductions.

Agency Response: See response **LCFS SB4-1**.

48. Comment: LCFS ST8-2 and LCFS ST8-3

The comment states that as a result of the LCFS not crediting bio-jet fuel Alt Air is reducing the total available production of renewable jet fuel for United Airlines and other airlines to purchase. Creating such dis-incentives for producers like Alt Air and thereby suppressing demand from airlines is contrary to the GHG reduction goals of the LCFS and is counterproductive in light of the unique role the airline industry can play in helping to obtain financing for advanced biofuel facilities through dedicated off take agreements.

Agency Response: See response **LCFS SB4-1**.

49. Comment: LCFS ST8-4

The comment states that rather than incentivizing facilities to produce renewable diesel instead of bio-jet, ARB ought to allow credit for both renewable diesel and bio-jet and allow the market to determine where the fuel is allocated. This would result in equivalent and environmental benefit, lend more certainty to ARB's fuel availability projections, eliminate concerns that the LCFS inhibits bio-jet production, and create additional compliance flexibility and cost containment opportunities.

Agency Response: See response **LCFS SB4-1**.

50. Comment: **LCFS ST8-5**

The comment states that their proposed approach would be consistent with ARB's stated support for deployment of bio-jet in comments on the EPA's proposed endangerment finding for GHGs from aircraft and in ARB's own sustainable freight strategy. The commenter strongly urges ARB to credit bio-jet fuels under the LCFS.

Agency Response: See response **LCFS SB4-1**.

9_ST_LCFS_CalStart

51. Comment: **LCFS ST9-1**

The comment states that the LCFS is a job-creator in California and the policy will encourage innovation and more investments in the production of low carbon fuels in California.

Agency Response: ARB staff appreciates the support for the LCFS regulation.

52. Comment: **LCFS ST9-2**

The comment states that a number of member fleets are already meeting the effective goals of the LCFS. Member companies are also going beyond the 10 percent in carbon intensities showing that fleets can do this and that this is a viable policy. Their efforts will all the more be supported by the re-adoption of the LCFS.

Agency Response: ARB staff appreciates the information in support of the re-adoption of the LCFS regulation.

53. Comment: **LCFS ST9-3**

The comment supports the re-adoption of the LCFS.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

10_ST_LCFS_Kern

54. Comment: **LCFS ST10-1**

The comment strongly supports the provisions for the low energy, low complexity refinery provisions.

Agency Response: ARB staff appreciates the support for the LCFS provisions.

55. Comment: **LCFS ST10-2**

The comment supports the incremental deficit option pertaining to crude oil carbon intensity.

Agency Response: ARB staff appreciates the support for the LCFS provision.

11_ST_LCFS_NexGen

56. Comment: **LCFS ST11-1**

The comment supports the re-adoption of the LCFS.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

12_ST_LCFS_CRNG

57. Comment: **LCFS ST12-1**

The comment supports the LCFS program and states that the re-adoption of the LCFS to the extent that it continues to support renewable natural gas will send the much needed market signal the industry needs to develop projects and obtain necessary financing in California.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

13_ST_LCFS_WM

58. Comment: **LCFS ST13-1**

The comment states that the re-adoption of the LCFS will be a major step in both stabilizing and strengthening the value of the LCFS credits and will provide an economic situation that will allow them to move forward with additional projects.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

14_ST_LCFS_NRDC

59. Comment: **LCFS ST14-1**

The comment expresses the importance of the program to the Governor and leaders in legislature, to the clean fuels industry, as well as innovators in the oil sector. By voting to readopt the program, the

Board will be sending a powerful signal in the State and to other states and internationally that California is moving forward.

Agency Response: ARB staff thanks the commenter for the support of the re-adoption of the LCFS.

60. Comment: **LCFS ST14-2**

The comment states that the program is working, seeing a 20 percent increase in lower carbon alternative fuel use, a decrease of carbon intensity by 16 percent, and even seeing the oil industry exceed the standards by 40 percent.

Agency Response: ARB staff appreciates the information in support of the re-adoption of the LCFS regulation.

15_ST_LCFS_CANGV

61. Comment: **LCFS ST15-1**

The comment supports the re-adoption of the LCFS.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

16_ST_LCFS_LCFC

62. Comment: **LCFS ST16-1**

Commenter expresses support and appreciation for diligence of program staff. Additionally, they express hope that the board and staff will continue on the path to create ultra-low carbon fuels. Also, commends the flexibility of the LCFS program. The commenter supports adoption.

Agency Response: ARB staff appreciates the support for re-adoption of the LCFS regulation.

17-ST-LCFS-ALAC

63. Comment: **LCFS ST17-1**

The commenter urges re-adoption of the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

18-ST-LCFS-CMUA

64. Comment: **LCFS ST18-1**

The commenter supports staffs' updates and re-adoption of the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

19-ST-LCFS-UA

65. Comment: **LCFS ST19-1**

The commenter encourages the board to look at all biofuels to generate LCFS credits (like mentioned from A4A Tim Taylor). Greater participation is encouraged and since RD is not an option for airlines, biofuels for airlines should be incentivized. The commenter wishes to work with board members and staff to this end.

Agency Response: See response to **LCFS SB4-1**.

20-ST-LCFS-SCC

66. Comment: **LCFS ST20-1**

The commenter fully supports the re-adoption of the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

21-ST-LCFS-AJW

67. Comment: **LCFS ST21-1**

The commenter fully supports re-adoption of the LCFS regulation and congratulates management and staff on the regulation. Commenter rebuts WSPA's comments that the credit clearance market will destabilize the market. Commenter advises the board to inform stakeholders how credit clearance market will work, after the LCFS re-adoption.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

22-ST-LCFS-CE

68. Comment: **LCFS ST22-1**

The commenter is in full support of the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

23-ST-LCFS-UCS

69. Comment: **LCFS ST23-1**

The commenter supports the re-adoption of the LCFS regulation, and notes that California is already reducing its oil-use, due in part, to programs by the ARB, such as the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

24-ST-LCFS-Proterra

70. Comment: **LCFS ST24-1**

The commenter supports the LCFS and commends staff for its commitment to the program.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.

25-ST-LCFS-Alon

71. Comment: **LCFS ST25-1**

The commenter is strongly supportive of the LCFS regulation. The commenter suggests that staff reconsider the fuel provided by their Bakersfield plant.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation. With respect to the Low Complexity/Low Energy Use credit request for the Bakersfield facility see responses to **LCFS FF9-1** through **LCFS FF9-8** and **LCFS B5-1**.

26-ST-LCFS-CalETC

72. Comment: **LCFS ST26-1**

Commenter is in support of re-adoption of the LCFS regulation.

Agency Response: ARB staff appreciates the support for the re-adoption of the LCFS regulation.