No. 17-16881

IN THE UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

ROCKY MOUNTAIN FARMERS UNION, et al.,
Plaintiffs-Appellants,

v.

RICHARD COREY, IN HIS OFFICIAL CAPACITY AS EXECUTIVE OFFICER OF THE CALIFORNIA AIR RESOURCES BOARD, **et al.,**
Defendants-Appellees,

ENVIRONMENTAL DEFENSE FUND, et al.,
Intervenors-Defendants-Appellees.

On Appeal from the U.S. District Court for the Eastern District of California,
Fresno Division, Case No. 09-CV-02234, The Honorable Lawrence J. O'Neill, Judge

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JURISDICTIONAL STATEMENT

The parties agree on the basis for this Court's jurisdiction.

ISSUES PRESENTED

Does the Court have jurisdiction to consider Plaintiffs' challenges to the repealed Low Carbon Fuel Standard provisions where no effective relief is available to remedy economic injuries allegedly suffered as part of past transactions completed under those provisions?

Do Plaintiffs' claims of extraterritorial regulation present any questions not already resolved by this Court, and, if so, does a carbon-intensity standard applicable only to fuels sold in the State regulate extraterritorially?

Do Plaintiffs' claims of discrimination against out-of-state crude oils present any questions not already resolved by this Court, and, if so, is it discriminatory to use the same, average-based carbon-intensity values to calculate deficits for all crude oils, regardless of their origin, or to discourage significant use of high-carbon crude oils, regardless of their origin?

Do Plaintiffs' claims of discrimination against out-of-state ethanols present any questions not already resolved by this Court, and, if so, is it discriminatory to distinguish between ethanols based on their scientifically calculated greenhouse gas emissions?

STATUTORY ADDENDUM

The statutory addendum to this brief contains relevant portions of the LCFS regulations, California Code of Regulations, title 17, § 95480 et seq., that were omitted from Plaintiffs' addendum.

INTRODUCTION

In this second appeal, Plaintiffs again attack California's Low Carbon Fuel Standard (LCFS), claiming, as they did before, that the LCFS regulates extraterritorially and discriminates against out-of-state fuels. This Court correctly rejected those claims in the previous appeal, *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070 (9th Cir. 2013), and there is no reason to revisit that decision or reach different conclusions here. In fact, Plaintiffs concede that *Rocky Mountain* controls most of their claims, and they fail to distinguish their other claims from the ones decided in *Rocky Mountain*.

There are three sets of LCFS provisions arguably at issue in this appeal: the original regulation, first adopted in 2009; the 2012 amendments to the original crude oil provisions; and the new LCFS adopted in 2015 when the original LCFS was repealed. *See* AOB 5. Plaintiffs assert that these changes to the LCFS regulations are irrelevant to the substance of their claims. *Id.* at 21-22. But the 2015 repeal is relevant to this Court's

jurisdiction because no effective relief is available as to the repealed provisions. These claims are, therefore, moot, and the only live challenges concern the new LCFS that is currently in effect.

On the merits, Plaintiffs concede that *Rocky Mountain* forecloses their extraterritorial regulation claim under the dormant Commerce Clause. AOB 42. In an attempt to get around this fatal problem, Plaintiffs now seek to advance an extraterritorial regulation claim based not just on the Commerce Clause but also on "the federal structure of the Constitution." AOB 41. But just like their dormant Commerce Clause claim, Plaintiffs' "federal structure" claim turns on their contention that the LCFS "regulate[s] and control[s] activities wholly beyond [the State's] boundaries." AOB 27 (internal quotation omitted); *see also id.* at 30 (articulating same test for Commerce Clause). *Rocky Mountain* decided that very question, holding that the LCFS controls only the average carbon intensity of fuels sold for use in California. 730 F.3d at 1101.

The Court need not address Plaintiffs' ongoing disagreement with that binding conclusion, but, in any event, Plaintiffs' arguments are without merit. *Rocky Mountain* is consistent with a long line of authority that has considered the effects of state product regulations on manufacturers, including out-of-state manufacturers, who wish to sell their products in the

regulating State. Courts recognize that state product regulations often affect the decisions of out-of-state manufacturers, and courts routinely hold that those effects do not transform state product regulations into *per se* unconstitutional exterritorial regulations. Rather, those effects are considered under the *Pike* balancing test, which is designed to identify state laws that impermissibly burden interstate commerce. *E.g.*, *Minnesota v. Clover Leaf Creamery Co.*, 449 U.S. 456, 473 (1981). Plaintiffs' capacious view of what constitutes *per se* unconstitutional extraterritorial regulation lacks any support in the law.

Plaintiffs also concede that *Rocky Mountain* forecloses their claims that the LCFS discriminates against out-of-state crude oils. AOB 55. Their arguments that *Rocky Mountain* was "improperly decided" are irrelevant here. *See id.* They are also entirely without merit. All versions of the LCFS have regulated crude oils based not on their origin but on their potential to increase the average carbon intensity of the fuels Californians consume. This Court correctly rejected Plaintiffs' arguments that the original LCFS discriminated against out-of-state crude oils on its face, in its purpose, or in its effects. *Rocky Mountain*, 730 F.3d at 1098-1101. There is no reason to reach a different conclusion regarding the current LCFS crude oil provisions,

particularly since Plaintiffs themselves argue those provisions are "materially the same." AOB 55.

Plaintiffs' claims of discrimination against out-of-state ethanol fare no better. Having voluntarily dismissed all discriminatory effects claims as to ethanol, Plaintiffs advance only claims of facial and purposeful discrimination and concede that these claims are foreclosed by *Rocky Mountain*. *See* AOB 61 n.16. Plaintiffs' continued disagreement with *Rocky Mountain* is both irrelevant here and unfounded. As this Court correctly held, the LCFS applies the same rigorous, science-based lifecycle analysis to all alternative fuels. That some out-of-state ethanols actually produce more emissions than some in-state ethanols is a reflection of accurate modeling, not discrimination against out-of-state fuels. This is underscored by the fact that numerous out-of-state ethanols have lower carbon intensities than many California ethanols. The LCFS is a non-discriminatory exercise of the State's authority to distinguish products, sold in its market, based on the relative risks they pose to the State and its people. Plaintiffs' claims to the contrary are wholly lacking in factual or legal support.

The district court's rejection of Plaintiffs' claims, and its entry of judgment for Defendants, should be affirmed.

FACTUAL BACKGROUND

A. The California Legislature's Mandate to Reduce the State's Greenhouse Gas Emissions

In 2006, the California Legislature found that climate change "poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Cal. Health & Saf. Code § 38501(a). The serious risks California faces from climate change include "the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems." *Id.*

To reduce these risks, the Legislature mandated that the State cut its greenhouse gas emissions to 1990 levels by 2020 and tasked the California Air Resources Board (CARB) with designing and implementing measures to achieve that objective. *Id.* § 38501(c), (e), (h); *see also id.* §§ 38510, 38550. In 2016, the Legislature expanded this goal, mandating that the State reduce its greenhouse gas emissions by an additional 40 percent by 2030. *Id.* § 38566.

The transportation sector produces almost half of California's greenhouse gas emissions. *See* ER 84. California has deployed a multi-faceted approach to reducing these emissions, including efforts to change the types of vehicles and fuels Californians use and to reduce the number of miles Californians drive. *See* ER 85; SER 158-159; *Rocky Mountain*, 730 F.3d at 1079 (citing statutes and regulations). A part of this comprehensive approach, the LCFS encourages the development and production of more, lower-carbon alternative fuels for use in California. ER 84-85.

B. The Original LCFS

CARB adopted the first LCFS regulation in 2009. *See* SER 154. It was designed to reduce the average carbon intensity of the transportation fuels used in California by ten percent by 2020. *Id.* Carbon intensity is a measure of the greenhouse gas emissions from a fuel's full lifecycle—from its production through its distribution to its use in the vehicle. SER 155.

In choosing lifecycle emissions as the appropriate measure of a fuel's climate impacts, CARB followed well-established science and the actions of other governmental entities, including Congress. *See* 42 U.S.C. § 7545(o)(1)(H); *see also Rocky Mountain*, 730 F.3d at 1081-1082. Lifecycle emissions are, in fact, the only way to meaningfully compare the greenhouse gas emissions associated with various fuels. SER 107, 110, 134-

135. For example, electric vehicles produce no tailpipe emissions, but, depending on how it is generated, the use of electricity as a fuel can result in significant greenhouse gas emissions—emissions that lifecycle analysis captures. SER 107. Further, under lifecycle analysis, biofuels, such as ethanols, can produce far fewer greenhouse gas emissions than petroleum-based fuels, in part because lifecycle analysis recognizes the absorption of carbon dioxide as the feedstock crop (*e.g.*, corn) grows. *See* ER 110.[1]

Using a rigorous, scientific modeling tool, designed specifically to measure lifecycle greenhouse gas emissions of transportation fuels, CARB determined the baseline (pre-LCFS), average carbon intensity of the fuels Californians consumed. SER 110, 160-161. CARB then established increasingly stringent average carbon-intensity standards for each year from 2011 to 2020. Original LCFS § 95482 (ADD-49).[2]

Regulated parties—typically refiners or blenders who sell finished fuels in California—generated credits or deficits by selling fuels in California that had carbon-intensity values below or above the relevant standard for the

[1] More information about lifecycle analysis can be found in the *amicus* brief by scientific experts, filed in the previous appeal. ECF No. 72, Case No. 12-15131.

[2] Citations to "ADD" are to pages in Plaintiffs' Addendum, while citations to "D-ADD" are to pages in Defendants' Addendum.

year, respectively. SER 111, 155-156; Original LCFS § 95485 (D-ADD-86-88). Regulated parties were required to hold sufficient credits at the end of each year to cover any deficits. SER 111, 155-156; Original LCFS § 95484(b) (D-ADD-74-75). Excess credits could be traded among regulated parties. SER 111; Original LCFS § 95485(c) (D-ADD-89-90). No particular fuel, or carbon-intensity value, was prohibited. SER 111, 144-145, 147. Regulated parties could choose to sell higher-carbon fuels in California. *See id.* They would simply need to sell other lower-carbon fuels, or purchase credits from other parties who did, in order to offset deficits from higher-carbon fuels. *See id.*; *see also Rocky Mountain*, 730 F.3d at 1080.

Fuels were assigned carbon-intensity values somewhat differently depending on whether they were petroleum-based or alternative fuels. *See* Original LCFS § 95486(a) (ADD-51). This reflected CARB's conclusion that the State's environmental and public health objectives would require much lower-carbon alternatives to petroleum fuels. SER 127, 141-143, 147. To encourage investment in the development of those fuels, the LCFS directed its incentives (including the ability to generate credits) exclusively to those lower-carbon alternative fuels. *Id.*

Accordingly, the original LCFS assigned all crude oils the average carbon intensity of crude oils consumed in California in 2006—a value that would produce deficits because it was higher than any carbon-intensity standard set by the LCFS. Original LCFS § 95486(b)(2)(A)(1) (ADD-58); *see also* SER 129. The original LCFS would have assigned (even higher) individualized values to certain very-high carbon crude oils, referred to as "emerging high-carbon-intensity crude oils" or "emerging HCICOs." Original LCFS § 95486(b)(2)(A)(2) (ADD-58-61).[3] This approach—which was considered in *Rocky Mountain*—was designed to minimize the particular risk emerging HCICOs posed, namely that the sale of significant amounts of these crude oils in California could dramatically increase the average carbon intensity of fuels sold in the State. SER 142. However, the emerging HCICO provisions were never employed, in part due to some uncertainties in estimating carbon intensities for these crude oils under the original regulation. SER 64; *see also* Appellees' Request for Judicial Notice (RJN), Exh. A at 3. Thus, under the original LCFS, all crudes sold for use in California received the identical carbon-intensity value (the 2006 baseline

[3] Emerging HCICOs were defined as crude oils with a carbon-intensity value above 15 gCO2e/MJ that had not made up 2% or more of California's crude market in the baseline year of 2006. SER 128-129; *see also Rocky Mountain*, 730 F.3d at 1085.

average). *See Rocky Mountain*, 730 F.3d at 1086 (noting that emerging HCICOs "would be treated like non-HCICOs").

In contrast, the carbon intensity of an alternative fuel would be determined either by selecting an applicable value from a list of default values or by obtaining an individualized value. Original LCFS § 95486(a)(2), (c), (d) (ADD-51, 62-63). The default values were designed to ease the regulatory burden involved in applying for an individualized value. SER 146. While several of the default values were a significant focus of the previous appeal, they were ultimately dwarfed by individualized values. By 2014, CARB had certified more than 230 individual values with low carbon intensities. SER 34-35.

Carbon-intensity values for ethanols occupied a broad range. *See* SER 67-101. The lowest of these values corresponded to ethanols from outside of California: from the Midwest and Brazil. *See id.*; *see also Rocky Mountain*, 730 F.3d at 1084. The substantial variation in these values reflected differences in numerous aspects of the lifecycle, including the type of feedstock or raw material used (*e.g.*, corn, sugar, or sorghum), the type of thermal energy used, and the efficiency of the ethanol plant. *See* SER 67-101; *see also Rocky Mountain*, 730 F.3d at 1083-1084.

C. The 2012 Amendments to Crude Oil Provisions

In 2011, CARB initiated a rulemaking to amend the crude oil provisions of the original LCFS.[4] RJN, Exh. B. CARB wanted the provisions to reflect lessons CARB had learned from the first years of LCFS implementation, as well as changes in both the petroleum market and crude-oil emissions modelling. *Id.* at ES-2, ES-5; SER 42. CARB completed this rulemaking in 2012, and the amended provisions formally took effect on January 1, 2013. RJN, Exh. C.

The 2012 amendments eliminated the emerging HCICO distinction. SER 64. They established, instead, a two-step process for calculating deficits from the sale of crude oils in California. 2012 LCFS § 95486(b)(2)(A)(1) (D-ADD-55-57). This two-step process essentially assumed, first, that the average carbon intensity of crude oils consumed in California would not increase above its 2010 level but, second, would test that assumption and account for any increase in average crude carbon intensity. Accordingly, at the first step, "base deficits" for crude oils were determined by applying the 2010 average to all crude oils sold for use in California. 2012 LCFS § 95486(b)(2)(A)(1) (D-ADD-55-57). At the

[4] CARB also made other amendments to the original LCFS, but only the crude oil provisions are at issue here. *See* ER 110 ¶ 70, ER 112 ¶ 75.

second step, which would occur after each year closed, CARB would calculate the average carbon intensity of the crudes that had been sold in California in the prior year. *Id.* § 95486(b)(2)(A)(3) (D-ADD-57-58); *see also* ER 112; SER 64. If average crude carbon intensity increased above its 2010 baseline, all crude oils would be assigned "incremental deficits" based on that increase. 2012 LCFS § 95486(b)(2)(A)(2) (D-ADD-57); *see also* ER 112; SER 64. At both steps, all crude oils were assigned the same values (either the 2010 average or, if necessary, the incremental increase in average carbon intensity). SER 64. Crude oils' individual carbon intensities were used, however, in the calculation of the new averages. *Id.*

These two steps continued to direct credits exclusively to the low-carbon alternative fuels necessary to California's objectives, thereby encouraging the development and use of those fuels. *See* SER 127, 141-143, 147. The two steps also ensured that the carbon intensity of California's crude mix was accurately accounted for, through the assignment of incremental deficits for any increases in average carbon intensity. RJN, Exh. B at 41. Finally, the two steps created some disincentive to sell large amounts of high-carbon crudes in California, regardless of the crude's origin, because doing so could trigger additional, incremental deficits. *See id.*

D. The 2015 LCFS

In late 2014, CARB began a rulemaking to consider a new LCFS regulation. ER 84. This was, in part, a response to a 2013 decision from a California Court of Appeal holding that CARB had not complied with certain state procedural requirements in its adoption of the original LCFS. *See POET, LLC v. CARB*, 218 Cal. App. 4th 681 (2013). Among other things, that decision required CARB to "[s]et aside its approval of the [original] LCFS." *Id.* at 766-767.

The new regulation continues much of the LCFS program's fundamental framework, including average carbon-intensity standards that become increasingly stringent over time, the use of lifecycle analysis to measure carbon intensity, and the system of credits and deficits. 2015 LCFS §§ 95484, 95485(a), 95486(b)(3) (D-ADD-4-7, 43-45). Changes to the new regulation were designed to take advantage of updated lifecycle modeling and lessons CARB had learned from implementing the LCFS, as well as to respond to the *POET* court's order. SER 33-48.

For example, CARB determined that the LCFS's objectives would be better served by focusing more agency resources on analyzing significant, new innovations in truly low-carbon fuels and less on applications for individualized carbon-intensity values with relatively minor differences.

SER 36-37. Accordingly, CARB adopted a new approach for the assignment of individualized carbon-intensity values for alternative fuels. *Id.* Under this approach, alternative fuels are classified as either "Tier 1" or "Tier 2" fuels, depending on whether they are well-understood, established fuels or more unconventional fuels, respectively. 2015 LCFS § 95488(b) (D-ADD-15-16). Both Tier 1 and Tier 2 fuels are assigned individualized carbon-intensity values. *See id.* § 95488(c)(3), (4) (D-ADD-22-38). The application for a Tier 1 carbon-intensity value is more streamlined than for Tier 2 because CARB already has significant information about these fuels. *See id.*; *see also* SER 37.

The crude oil provisions in the new LCFS remained essentially unchanged from the 2012 amendments described above. All crude oils still generate "base deficits" using the baseline average of crudes consumed in California in 2010. 2015 LCFS § 95489(b) (D-ADD-48-49). And all crudes will be assigned additional "incremental deficits" in any year in which the average carbon intensity of California-consumed crude increases over the 2010 baseline average. *Id.* at § 95489(c) (D-ADD-49-51).

In September 2015, CARB approved and adopted the new LCFS regulation to take effect January 1, 2016. SER 19-20. CARB also repealed

the original LCFS (as amended). *Id.* Only the new LCFS is currently in effect.[5]

E. Operation of the LCFS Program

California has now had enforceable carbon-intensity standards for more than seven years, and the LCFS program is working as designed. As of 2016, the average carbon intensity of Californians' fuels had decreased by almost three percent compared to the 2010 baseline (RJN, Exh. D), and the diversity of alternative fuels consumed in California is increasing significantly (RJN, Exh. E; *see also* SER 34). There is also an active market for LCFS credits that provide financial incentives for low-carbon innovation. *See* SER 65, 148-150. Millions of LCFS credits are traded each year, with prices, under the new LCFS, averaging more than $80 per credit. SER 15.

While California is seeing an increase in fuel diversity and a decrease in average carbon intensity, it has not seen an increase in in-state fuel production, relative to other States. In 2011, when the first LCFS standards went into effect, California ranked third and fifteenth, among States, in crude oil and ethanol production, respectively. RJN, Exh. F. In 2015 (the

[5] In a second decision in the *POET* litigation, a California Court of Appeal froze the diesel-related carbon-intensity standard at its 2017 level until CARB completes additional analysis of biodiesel's NOx emissions. *POET, LLC v. CARB*, 12 Cal. App. 5th 52, 104 (2017).

most recent year for which this information is available), California's rankings remain unchanged. RJN, Exh. G. In this same period, crude oil production more than doubled in Texas, Oklahoma, Colorado and New Mexico, while ethanol production expanded dramatically in Illinois, Iowa, Indiana, Ohio and Kansas. RJN, Exhs. F, G.

PROCEDURAL HISTORY

In 2009 and 2010, respectively, Plaintiffs Rocky Mountain Farmers Union, et al. (RMFU) and American Fuels and Petrochemical Manufacturers, et al. (AFPM) filed these two lawsuits challenging the original LCFS. ER 652-671, 634-651. Both sets of Plaintiffs alleged that the original LCFS violated the dormant Commerce Clause by 1) regulating extraterritorially, 2) discriminating against out-of-state fuels, and 3) imposing excessive burdens on interstate commerce. *Id.* Natural Resources Defense Council, Environmental Defense Fund, Conservation Law Foundation and the Sierra Club intervened as Defendants. *See* ER 703, 704, 709.

In December 2011, the district court decided cross-motions for summary judgment, holding that the LCFS regulated extraterritorially and that it discriminated facially against out-of-state ethanols and in purpose and effect against crude oils. *See Rocky Mountain*, 703 F.3d at 1077-1078. The

district court did not decide all the claims in the case, but certified a final judgment as to the claims it did decide. *See* ER 725. Defendants and Defendant-Intervenors timely appealed. *See id.*

In 2013, this Court held that the LCFS did not regulate extraterritorially—because it only regulated the average carbon intensity of fuels sold for use in California. *Rocky Mountain*, 730 F.3d at 1103-1104. This Court further held that the LCFS did not discriminate on its face, in its purpose, or in its effects against out-of-state crude oils (*id.* at 1107), and that it did not facially discriminate against out-of-state ethanols (*id.*). This Court also held that AFPM's challenges to the original crude oil provisions—which had been amended in 2012 as described above—were not moot. *Id.* at 1097 n.12. This Court then remanded to the district court "to determine whether the ethanol provisions discriminate in purpose or effect and, if not," to consider Plaintiffs' other remaining claims. *Id.* at 1107.

This Court denied Plaintiffs' petitions for rehearing en banc. 740 F.3d 507 (9th Cir. 2014). Both AFPM and RMFU unsuccessfully petitioned the U.S. Supreme Court for certiorari. 134 S. Ct. 2875 (2014).

On remand, AFPM amended its complaint to allege that CARB's 2012 crude oil amendments were discriminatory and regulated extraterritorially and to delete its claims of preemption and excessive burdens on interstate

commerce. ER 210-227. AFPM also sought to amend its complaint so that its extraterritorial regulation claims would be based on "principles of interstate federalism," not just the dormant Commerce Clause. *See* ER 238. The district court denied that request as to the original LCFS but allowed it as to the 2012 crude oil amendments. *See* ER 248. The district court later granted CARB's motion to dismiss AFPM's discrimination and extraterritorial regulation challenges to the 2012 crude oil amendments, holding, *inter alia*, that AFPM had identified no meaningful distinctions between these claims and those decided in *Rocky Mountain*. ER 164-169, 195-196, 204.

Meanwhile, CARB's rulemaking to adopt the new LCFS was underway. After CARB repealed the original LCFS and adopted the new one in 2015, both AFPM and RMFU amended their complaints to allege their claims against that new regulation. ER 99-118, 119-140. RMFU expressly abandoned all challenges to the original LCFS. SER 23. AFPM, in contrast, maintained that it could still challenge the repealed provisions—the original LCFS and the 2012 crude oil provisions. *See* ER 9.

CARB moved to dismiss RMFU's amended complaint in its entirety. *See* ER 2. Because AFPM's amended complaint contained a mixture of claims already decided, either in *Rocky Mountain* or in the motion practice

described above, and claims that had not yet been expressly addressed, CARB asked the district court to enter judgment on the already-decided claims and moved to dismiss all of AFPM's other claims. *See id.* In that motion, CARB argued, *inter alia*, that any undecided challenges to the repealed LCFS provisions (the original LCFS and its 2012 amendments) were moot because no effective relief is available as to those challenges. *See* ER 9.

On the mootness issue, the district court held that the only remedy AFPM identified was not available because AFPM lacked standing to seek it, because the remedy would be inequitable and impracticable, and because the remedy was impermissibly retrospective in violation of the Eleventh Amendment. ER 10-13. The district court nonetheless held that AFPM's challenges to the repealed provisions were not moot, although neither AFPM nor the court identified any relief that was available as to those provisions. *See* ER 14-15.

On the merits, the district court granted CARB judgment on all claims of extraterritorial regulation, all claims of discrimination (in any form) against out-of-state crude oils, and all claims of facial and purposeful discrimination against out-of-state ethanols. ER 48-49. The district court also dismissed RMFU's preemption claim. ER 49. That decision left only

claims of discrimination, in effect, against out-of-state ethanols and RMFU's claim that the LCFS's excessively burdens interstate commerce under the *Pike* balancing test. *See* ER 48. Plaintiffs voluntarily dismissed these remaining claims. ER 58-59. The district court then entered final judgment for CARB. ER 59. Plaintiffs timely appealed (ER 50-57), with RMFU opting not to challenge dismissal of its preemption claim (AOB 22 n.9).

SUMMARY OF ARGUMENT

This second appeal is a manifestation of Plaintiffs' ongoing and unfounded disagreement with this Court's decision in *Rocky Mountain*. Plaintiffs first rehash the arguments this Court rejected in *Rocky Mountain* when it concluded that the use of lifecycle analysis to calculate and compare fuels' emissions does not constitute extraterritorial regulation. *See* AOB 26-43. Plaintiffs then argue that the original LCFS discriminated against out-of-state crude oils, although *Rocky Mountain* expressly decided precisely the opposite and "controls the panel's decision." AOB 46-51. Plaintiffs also attack the new LCFS's approach to regulating crude oils (*id.* at 51-55), but conclude their attack by stating that this approach "is materially the same as" the one considered in *Rocky Mountain* (*id.* at 55). Finally, Plaintiffs argue that *Rocky Mountain* incorrectly held that the original LCFS did not facially discriminate against out-of-state ethanols and that the new LCFS

discriminates, on its face and in its purpose, against out-of-state ethanols. *Id.* at 56-65. As with the changes to the crude oil provisions, however, Plaintiffs argue that the new ethanol provisions "continue to be unconstitutionally discriminatory … *for essentially the same reasons*" considered, and rejected, in *Rocky Mountain*. AOB 61 (emphasis added). Because Plaintiffs' disagreement with *Rocky Mountain* is the primary, if not sole, basis of their appeals, their challenges present no issues for this panel to decide. *See, e.g.*, AOB 42, 51, 55, 56, 61 n.16.

In addition, Plaintiffs' attacks on *Rocky Mountain* are entirely without merit. Plaintiffs' claims of extraterritorial regulation—whether grounded in the Commerce Clause or the structure of the Constitution—are inconsistent with numerous decisions of the Supreme Court and Courts of Appeals. Significantly, Plaintiffs do not allege that fuel sales in other States are controlled by the LCFS, although control of sales in other States has been the deciding factor in extraterritoriality challenges to standards governing in-state sales.

Plaintiffs' discrimination claims are equally baseless. The LCFS distinguishes among fuels sold in the State based on their relative contributions to the climate-change harms California is trying to prevent or at least reduce. It does so using rigorous, scientific modeling of the

greenhouse gas emissions consequences of Californians consuming different fuels. This is not discrimination against out-of-state fuels, but rather "undiscriminating hostility" to high-carbon fuels that aggravate dire threats to the State and its people. *See Chem. Waste Mgmt., Inc. v. Hunt*, 504 U.S. 334, 347 n.11 (1992). The absence of discrimination against out-of-state fuels is underscored by the incentives the LCFS creates for the development and production of lower-carbon fuels—incentives that fuel producers anywhere in the country (or the world) may avail themselves of by choosing to produce lower-carbon fuel for use in California.

While this appeal presents little or nothing for this panel to decide on the merits, there is a threshold jurisdictional question regarding AFPM's challenges to the LCFS provisions that have been repealed. As noted above, in 2015, CARB repealed the original LCFS (as amended in 2012) and adopted a new regulation. RMFU then dropped all claims against the repealed provisions, but AFPM maintained it could still challenge the original LCFS and its 2012 amendments. SER 23; ER 100-101. AFPM's challenges to the repealed provisions are moot because no effective relief is available here to remedy the injuries AFPM's members allegedly sustained under those provisions. Because this is a jurisdictional question, Defendants address it first in Section I below.

STANDARD OF REVIEW

The denial of leave to amend is reviewed for abuse of discretion. *Smith v. Pacific Properties & Dev. Corp.*, 358 F.3d 1097, 1100 (9th Cir. 2004). Legal determinations underlying that denial and the dismissal of claims are reviewed *de novo*. *See id.*; *Daniels-Hall v. Nat'l Educ. Ass'n*, 629 F.3d 992, 998 (9th Cir. 2010).

ARGUMENT

I. AFPM'S CHALLENGES TO THE REPEALED REGULATORY PROVISIONS ARE MOOT

AFPM claims that three different sets of LCFS provisions are at issue in this case—the original LCFS, the 2012 crude oil amendments, and the new LCFS that was adopted in 2015. AOB 5. But AFPM's challenges to the repealed provisions—the original LCFS and the 2012 amendments—are moot because there is no effective relief available as to those provisions. *See Bayer v. Neiman Marcus Group, Inc.*, 861 F.3d 853, 863 (9th Cir. 2017) ("[M]ootness turns on the ability of the … court to award effective relief.").

There is, of course, "nothing left [of the repealed provisions] to enjoin." *Arc of Cal. v. Douglas*, 757 F.3d 975, 982 (9th Cir. 2014). While acknowledging this reality, AFPM argued below that the court could provide other relief—specifically a "recalculation" of the millions of credits and

deficits issued under these repealed provisions from 2011 through 2015. *See* ER 9. But, as the district court properly held, that remedy, and any remedy like it, is unavailable here. ER 10-14. AFPM's claims against the repealed provisions—the original LCFS and the 2012 amendments—are moot.

A. The District Court Correctly Concluded that the Only Remedy AFPM Has Identified Is Unavailable

AFPM contends that the LCFS injures its members by causing them "to spend more money purchasing credits [or low-carbon fuels that would generate credits] to comply" with the regulation. ER 12; *see also* ER 110 ¶ 68. In the prior appeal, AFPM asserted that the LCFS "could impose as much as $10 to $20 million in additional costs" on its members and other regulated parties. SER 6. Any remedy for past expenditures of this sort is unavailable here for three independent reasons.

First, AFPM has only associational standing (ER 11 n.14) and, thus, lacks standing to seek a remedy designed to compensate its members for individualized damages. *See Warth v. Seldin*, 422 U.S. 490, 511 (1975). Any such remedy would require individualized proof, including who sold which fuels in California for how much and who purchased LCFS credits from whom for how much. *See* ER 11. Associational standing does not support an "organization seek[ing] damages on behalf of its members," and,

as the district court correctly held, that is essentially what AFPM sought below. *See United Food & Comm. Workers Union Local 751 v. Brown Group, Inc.*, 517 U.S. 544, 554 (1996); ER 11-12.

Second, any remedy involving recalculation of millions of credits and deficits, issued years in the past, would be extremely inequitable. As the district court noted, "millions of credits worth tens of millions of dollars" have been bought and sold since the LCFS program began. ER 14; *see also* SER 15. Any "recalculation" remedy would retroactively alter the value of, if not the entire basis for, countless transactions involving individuals and firms who are not even parties to this case. *See* ER 14. To "recalculate and reassign" credits and deficits from all these past transactions might well be "impossible" and would certainly be "inequitable to [those] who have already bought and sold" credits. *See* ER 13.

Further, to the extent AFPM's members paid more, in the past, to purchase lower-carbon fuels (e.g., lower-carbon ethanols to blend with their petroleum), those members were not damaged by those purchases because they received what they bargained for, including the valuable credits that those lower-carbon fuels would generate when sold in California. Upsetting those settled transactions now—particularly by eliminating credits that were

bought and paid for—would actually *cause*, rather than *remedy*, injuries. There is nothing equitable in that.

Third, the district court also correctly concluded that AFPM's proposed recalculation remedy—or any similar retroactively compensatory remedy—would be barred by the Eleventh Amendment's prohibition against retrospective relief. While the *Ex Parte Young* exception to the prohibition of suits against a State can permit plaintiffs to seek prospective relief against a state official, "the reasoning of *Young*" does not extend to "claims for retrospective relief." *Green v. Mansour*, 474 U.S. 64, 68 (1985). Any request to remedy past financial injuries, of the kind AFPM alleges its members sustained, is a request for retrospective relief. Indeed, compensation for costs incurred as part of past fuel purchases, or LCFS credit purchases, would be akin to damages, a classic retrospective remedy. *See* ER 12-13; *see also K.W. ex rel. D.W. v. Armstrong*, 789 F.3d 962, 974 (9th Cir. 2015) (distinguishing permissible remedy from one that would "compensate [Medicaid recipients] for any [past] loss of services" which would measure relief "in terms of a past monetary loss").

The district court correctly concluded that it could not provide the only remedy AFPM has identified concerning the repealed provisions. AFPM's challenges to those repealed provisions are moot.

B. AFPM Misconstrues this Court's Conclusion in *Rocky Mountain* that Prior Challenges to Amended Provisions Were Not Moot

Instead of identifying an effective remedy that is available here, AFPM argues that *Rocky Mountain* requires the conclusion that AFPM's challenges to the repealed provisions are not moot. AOB 46 n.13. AFPM reads the relevant part of *Rocky Mountain* too broadly.

In *Rocky Mountain*, this Court held that AFPM's challenges to the original crude oil provisions were not rendered moot by the 2012 amendments to those provisions. Specifically, this Court noted that "one year of Fuel Standard credits" could have been awarded, under the original provisions' distinction for emerging HCICOs. *Rocky Mountain*, 730 F.3d at 1097 n.12. The Court further noted that "[c]redits awarded based on those values will carry forward to subsequent years and may be used by a regulated party to comply with the Fuel Standard." *Id.* Based on those facts, the Court concluded that "[t]he propriety of the scheme under which those credits were distributed remains a live controversy." *Id.*

While that conclusion can be read as a holding that some relief might be available as to the short-lived and narrowly-applicable emerging HCICO distinction, it cannot be read, as AFPM seems to, as a determination that effective relief is always available as to any repealed provision of the LCFS.

Indeed, the facts relevant to the mootness conclusion in *Rocky Mountain*—the facts concerning the distinction between emerging HCICOs and other crude oils—bear no resemblance to the facts at issue here. Emerging HCICOs, by definition, were crude oils without a significant presence in the California market (SER 128-129), and, as this Court was aware when *Rocky Mountain* was decided, no crude had been treated as an emerging HCICO. *See Rocky Mountain*, 730 F.3d at 1086 (noting that emerging HCICOs were being "treated like non-HCICOs"). Thus, had the Court invalidated the emerging HCICO distinction and required an adjustment of deficits issued based on that distinction, that adjustment would have been fairly simple and very small in scale.

In contrast, the recalculation remedy AFPM sought below would have upset long-completed transactions worth tens of millions of dollars and involving potentially hundreds of parties (including many who are neither AFPM members nor otherwise involved in this lawsuit). *See* ER 13-14; SER 15. This Court's footnote concerning an unspecified remedy to address emerging-HCICO deficits (none of which had actually issued) does not support the availability of a broad "recalculation" remedy that would upend numerous long-settled transactions in which parties already received what they bargained for.

Rocky Mountain also did not decide, expressly or by necessary implication, the jurisdictional issues presented here—whether a plaintiff with associational standing may seek a remedy to compensate its members for alleged, past economic injuries or whether the Eleventh Amendment bars such retrospective relief. These issues were neither briefed by the parties nor addressed by the Court. *See Rocky Mountain*, 730 F.3d at 1097 n.12. Especially since the *Rocky Mountain* footnote did not identify the specific form of relief available for the claim presented there, it cannot be assumed that these legal issues were implicated, let alone considered and decided.

The district court correctly recognized that it could not require CARB to recalculate millions of credits and deficits issued under the repealed regulatory provisions. AFPM identifies no other effective remedy, and this Court's consideration of very different factual circumstances and legal issues in footnote 12 of *Rocky Mountain* neither suggests an available remedy suited for these facts nor requires this Court to find a live controversy here. AFPM's challenges to the repealed provisions are moot.

II. THE LCFS WAS NOT, AND IS NOT, AN EXTRATERRITORIAL REGULATION

Plaintiffs contend, as they did in the prior appeal, that the LCFS's use of lifecycle analysis regulates all the activities that are part of the fuel's

lifecycle, including those activities that occur outside the State. AOB 32-39. This Court correctly rejected this exact argument in *Rocky Mountain*: "California does not control these factors—directly or in practical effect—simply because it factors them into the lifecycle analysis." 730 F.3d at 1103. Plaintiffs concede that "this panel is bound by *Rocky Mountain*." AOB 42. They argue, however, that *Rocky Mountain* does not foreclose the entirety of AFPM's extraterritorial regulation claim because AFPM's claim is now "based upon the federal structure of the Constitution" whereas *Rocky Mountain* expressly considered only the Commerce Clause. AOB 41.[6] Plaintiffs also criticize *Rocky Mountain* and submit that it "should be reconsidered." AOB 41-42. All of these arguments fail.

A. *Rocky Mountain* Forecloses Plaintiffs' Claims of Extraterritorial Regulation

In presenting their extraterritoriality claims, Plaintiffs rely on allegations and legal arguments nearly identical to those they advanced in *Rocky Mountain*. *Compare* AOB 31-39 *with* SER 3-12; ER 105-106 *with* ER 640-641; ER 115-116 *with* ER 646-647; ER 137-138 *with* ER 669-700.

[6] Only AFPM amended its complaint to add a "structural federalism" claim. *See* AOB 17-18, 21. RMFU expressly described its challenges as grounded in "the Commerce … Clause[]." ER 120 (complaint), ER 144 (motion); *see also* ER 137 (alleging Commerce Clause prohibits extraterritorial regulation), 139 (same), 145 (same).

As the district court correctly concluded, despite "ample warning" from that court, "Plaintiffs have alleged no facts and have provided no argument to support a" different decision than the one in *Rocky Mountain*. ER 168-169; *see also* ER 8.

AFPM's attempt to frame its claim as one "based upon the federal structure of the Constitution" (AOB 41) does not support a different result.[7] Of course, the dormant Commerce Clause's extraterritorial regulation decisions, themselves, reflect core principles of federalism, including "the Constitution's special concern … with the autonomy of the individual States within their respective spheres." *Healy v. Beer Inst.*, 491 U.S. 324, 335-336 (1989). And AFPM does not distinguish its federalism claim from its dormant Commerce Clause claim, conceding instead that the premise of its extraterritoriality claim—however styled—remains its contention that the LCFS *controls* commerce occurring *wholly* outside California. *See* SER 53; AOB 27, 30, 31, 37 n.10.

[7] AFPM argues that the district court improperly applied the law of the case doctrine. AOB 40-41. The district court correctly held that *Rocky Mountain* decided, expressly and by necessary implication, the very questions at the heart of AFPM's extraterritoriality theory. ER 246-248; 164-169; *see also United States v. Jingles*, 702 F.3d 494, 502 (9th Cir. 2012). But AFPM's law of the case argument is largely irrelevant because its extraterritorial regulation claims fail under *Rocky Mountain* and other binding precedent even without application of law of the case.

Rocky Mountain rejected this and every basis on which Plaintiffs attempt to rest their extraterritoriality claim. This Court concluded that the LCFS "regulates only the California market," *id.* at 1101; does not place a barrier around California or otherwise "threaten our economic union," *id.* at 1105; and "does not control conduct wholly outside [California]," *id.* at 1106. This Court also held that the LCFS "imposes no [unconstitutional] conditions on the importation of ethanol" because it "says nothing at all about" fuels sold in other States, "does not require other jurisdictions to adopt reciprocal standards," and "imposes no … penalties on non-compliant transactions completed wholly out of state." *Id.* at 1102-1103. These are legal conclusions about the way the LCFS operates and the effects those operations have. They are not limited to the Commerce Clause.

This panel, thus, cannot conclude, as Plaintiffs urge, that the LCFS unconstitutionally restricts the flow of commerce into California (AOB 3, 5, 39) or that "the LCFS impermissibly 'attach[es] restrictions to … imports in order to control [interstate and foreign] commerce,' and thereby 'extend[s] [California's] police power beyond its jurisdictional bounds.'" *See* AOB 31 (quoting *C & A Carbone, Inc. v. Clarkstown*, 511 U.S. 383, 393 (1994)). Plaintiffs do not get a second bite at the apple simply by attaching a different label to a substantively indistinguishable claim.

AFPM's pastiche of federalism quotations only underscores that its current extraterritorial claim is not meaningfully different from the one this Court decided. *See* AOB 26-31. For example, AFPM highlights passages in which the Supreme Court has indicated that a State "'is without power … to regulate and control activities wholly beyond its boundaries'" and that "'[n]o State can legislate except with reference to its own jurisdiction.'" AOB 27 (quoting *Watson v. Emp'rs Liab. Assurance Corp.*, 348 U.S. 66, 70 (1954) and *Bonaparte v. Appeal Tax Court of Balt.*, 104 U.S. 592, 594 (1881), modification in AOB).[8] As discussed above, this Court has already expressly concluded that the LCFS does nothing of the sort. There is, thus, no factual or legal basis for an extraterritoriality conclusion other than the one reached in *Rocky Mountain*.

[8] Notably, many of the cases from which AFPM extracts its collection of quotations involve entirely inapposite contexts and do not address state product regulations governing in-state sales. *See, e.g.*, *Shelby Cty. v. Holder*, 133 S. Ct. 2612, 2619 (2013) (federal preclearance under Voting Rights Act); *PPL Mont., LLC v. Montana*, 565 U.S. 576 (2012) (title to certain riverbeds); *Addington v. Texas*, 441 U.S. 418 (1979) (civil commitment proceedings); *Bigelow v. Virginia*, 421 U.S. 809 (1975) (First Amendment speech protections). The few cases that do involve in-state sales actually undermine AFPM's arguments, as discussed in the next section.

B. Plaintiffs' Unfounded Attacks on *Rocky Mountain* Directly Contravene Established Precedent

Even if *Rocky Mountain* did not control, Plaintiffs' extraterritorial regulation claims would still fail because they are based on views of the law that directly contravene controlling authority.

Plaintiffs concede, as they must, that the LCFS only regulates "the 'carbon intensity' of transportation fuels used in California." AOB 6; *see also id.* at 24 ("the LCFS applies only to fuels sold in California"); *Sam Francis Foundation v. Christies, Inc.*, 784 F.3d 1320, 1324 (9th Cir. 2015) (en banc) (confirming that the LCFS regulates "*in-state conduct*") (emphasis in original). And Plaintiffs identify no sales in other States that California purportedly controls, even though, in the rare cases in which courts have found state product regulations to regulate extraterritorially, the regulations all controlled sales in *other* States. *See, e.g.*, *Healy*, 491 U.S. at 338 (invalidating Connecticut law that "control[led] Massachusetts prices"); *Amer. Beverage Ass'n v. Snyder*, 735 F.3d 362, 376 (6th Cir. 2013) (invalidating Michigan law that "dictate[d]" whether "product [could] be

sold" in other States).[9] Plaintiffs' extraterritorial regulation claims would fail, therefore, even if *Rocky Mountain* did not control.

Plaintiffs' arguments to the contrary are unfounded. For example, Plaintiffs contend that a State may not "condition[] access to [its] market on whether parties conform their out-of-state activities" to meet the State's requirements. AOB at 35. This argument has no application here because, as Plaintiffs implicitly concede, the LCFS does not mandate particular production or distribution methods as a condition of market entry. *See* AOB 3 (noting that deficits (and credits) under the LCFS result from *voluntary* choices); *see also, supra,* 9 (discussing operation of regulations).

In any event, courts routinely affirm the constitutionality of state laws that require manufacturers to meet a State's standards with respect to products they choose to sell in that State's market. For example, the Supreme Court held that Minnesota's prohibition against the in-state sale of milk in plastic, nonreturnable containers was not even an unjustified burden on interstate commerce, let alone an extraterritorial overreach, even though at least some of the packaging occurred outside the State. *Minnesota v.*

[9] Extraterritorial regulation precedent outside the context of in-state market regulation is consistent. *See, e.g.*, *NCAA v. Miller*, 10 F.3d 633 (9th Cir. 1993) (invalidating Nevada law that would have required Nevada procedural rules for disciplinary proceedings with no nexus to the State).

Clover Leaf Creamery Co., 449 U.S. 456, 472 (1981). There was no question that Minnesota's prohibition would affect the chain of commerce preceding the in-state sale, including parts of that chain that occurred in other States. Indeed, the Court expressly noted the potential for such impacts on both packagers and raw material producers. *Id.* at 473. The Court also recognized the legitimacy of Minnesota's interest in decisions occurring earlier than the in-state sale itself, including Minnesota's interest in reducing the use of petroleum and natural gas as raw ingredients for packaging so that more of those materials would be available for other uses. *Id.* at 468. *Clover Leaf*, thus, demonstrates that out-of-state ripple effects up the chain of commerce are not, in and of themselves, extraterritorial regulation. Rather, such effects are appropriately considered under the *Pike* balancing test for potential impermissible burdens on interstate commerce. *See id.* at 473.

Further illustrating the point, the Courts of Appeals have expressly rejected claims of extraterritorial regulation, where the challenged standards would require changes to production processes for goods to be sold in the regulating State. For example, the Eighth Circuit upheld Minnesota's prohibition of in-state sales of petroleum-based sweeping components, even though an out-of-state manufacturer would have to change its formulation or

forego Minnesota sales. *Cotto-Waxo Co. v. Williams*, 46 F.3d 790, 793 (8th Cir. 1995); *see also Nat'l Elec. Mfrs. Ass'n v. Sorrell*, 272 F.3d 104, 110 (2nd Cir. 2001) (upholding labeling requirement as condition of importation).

The absence of extraterritorial regulation is all the more apparent here because the LCFS does not require fuel producers to change anything—let alone to change something particular—before their product can be sold in California. At their core, then, Plaintiffs' arguments boil down to a contention that it is somehow inherently unconstitutional for States to regulate the products sold and used within their boundaries when the preceding chain of commerce "spans multiple states and[/or] countries." *See* AOB 24; *see also id.* at 43. As the cases discussed above demonstrate, that is not the law.

Indeed, in its most recent extraterritorial regulation case under the dormant Commerce Clause, the Supreme Court expressly rejected an extraterritoriality challenge to Maine's regulation of certain in-state, retail pharmaceutical sales, despite alleged effects on preceding wholesale transactions occurring outside the State. *Pharm. Research & Mfrs. of Amer. v. Walsh*, 538 U.S. 644, 669 (2003). Likewise, the Supreme Court rejected a dormant Commerce Clause challenge to Maryland's prohibition against

refiners distributing their gasoline through their own stations, although that prohibition would unquestionably affect the operations of the out-of-state refiners. *Exxon Corp. v. Maryland*, 437 U.S. 117, 125-128 (1978). As *Exxon* demonstrates, Plaintiffs simply reach too far when they argue that a State may not consider "the process for producing and distributing the product" when regulating its own market. *See* AOB 32, 33, 35; *Exxon*, 437 U.S. at 121 (describing impacted distribution process); *see also Hampton Feedlot, Inc. v. Nixon*, 249 F.3d 814, 819, 820 (8th Cir. 2001) (upholding law intended to encourage "better" production decisions).

As the Tenth Circuit recently noted, "standards for products sold in-state" "will often have ripple effects, … both in-state and elsewhere," and such effects "may be amenable to scrutiny under the generally applicable *Pike* balancing test, or scrutinized for traces of discrimination" but do not "trigger near-automatic condemnation" as extraterritorial regulation. *Energy & Env. Legal Inst. v. Epel*, 793 F.3d 1169, 1173 (10th Cir. 2015). Contrary to Plaintiffs' arguments, courts recognize that in "today's interconnected national marketplace," a State's regulation of its own market will often have some effects up the chain of commerce and outside the State. *Id.* If those effects were inherently unconstitutional, the States' sovereign authority to protect their people would be severely limited, if not eliminated, and the

Pike test for excessive burdens on interstate commerce would have little, if any, function to serve. Plaintiffs' sweeping conception of extraterritoriality directly contravenes long standing dormant Commerce Clause precedent.

Plaintiffs' conception of extraterritoriality also finds no support in AFPM's non-Commerce-Clause cases. For example, in *BMW of N. Amer., Inc. v. Gore*, 517 U.S. 559 (1996), the Supreme Court held that Alabama courts could not impose punitive damages on BMW for undisclosed repairs to cars sold in *other* States. *Id.* at 572-574. But Alabama courts could enforce the State's disclosure laws and impose punitive damages for undisclosed repairs with respect to cars *sold in Alabama*, regardless of the fact that the repairs occurred outside the State. *See id.*; *see also id.* at 563 n.1. In other words, the Court upheld the State's authority to regulate in-state sales, even when that regulation implicated out-of-state activity. AFPM does not attempt to reconcile its argument that California may not consider the out-of-state lifecycle emissions corresponding to in-state fuel sales with this holding.

AFPM also makes no attempt to reconcile its contention that state regulations may never implicate the preceding chain of commerce with the principle that a State may "assert[] personal jurisdiction over a corporation that delivers its products into the stream of commerce with the expectation

that they will be purchased by consumers in the forum State." *See World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 297-298 (1980); *see also Bristol-Myers Squibb Co. v. Superior Court of Cal.*, 137 S. Ct. 1773, 1781 (2017) (lack of in-state sales relevant to absence of specific jurisdiction); AOB 26, 27, 28 (citing same). To the extent AFPM's personal and specific jurisdiction cases are relevant here, they contradict, rather than support, Plaintiffs' extraterritoriality theory.

The case law also belies Plaintiffs' argument that state regulations cannot be based on aspects of a product that are not physical "attributes." *See* AOB 39. Plaintiffs cite no case where extraterritoriality turned on this question. And, in fact, numerous decisions have upheld state market regulations designed to prevent harms that are not physically manifest in the product. *E.g.*, *Exxon*, 437 U.S. at 127-128 (upholding business-operations-based distinctions); *Nat'l Ass'n of Optometrists & Opticians v. Harris*, 682 F.3d 1144 (9th Cir. 2012) (same); *Amer. Exp. Travel Related Serv., Inc. v. Sidamon-Eristoff*, 669 F.3d 359 (3rd Cir. 2012) (upholding regulation of travelers check terms not physically manifest in the check).

Finally, Plaintiffs argue, as they did before, that California has impermissibly "project[ed] its regulatory authority into the territorial boundaries of sister states and foreign countries." AOB 3; *see also id.* at 28,

31, 35. Plaintiffs attempt to analogize to cases like *National Solid Wastes Management Association v. Meyer*, 63 F.3d 652 (7th Cir. 1995), and *Carbone*, 511 U.S. 583. *See* AOB 35-37. But the LCFS does not require other jurisdictions' "adoption and enforcement of [California] standards." *See Meyer*, 63 F.3d at 658; *see also Rocky Mountain*, 730 F.3d at 1102-1103 (rejecting these same analogies).[10] In fact, Plaintiffs do not allege that any jurisdiction has changed its laws to comply with the LCFS, despite more than seven years of carbon-intensity standards in California.

Likewise, none of the specters of hypothetical state overreach Plaintiffs posited last time, and posit again here, has materialized. *See* AOB 38-39. While Oregon has adopted a fuels regulation modeled on the LCFS,[11] Plaintiffs point to no lifecycle-based regulations of other products that States have adopted. And of course, should such regulations develop, this Court,

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[10] Plaintiffs' attempted use of *Carbone* to support its extraterritorial regulation claim also fails because that case presented no such claim and has not been treated by the Supreme Court as relevant to such claims. *See Walsh*, 538 U.S. at 669. Rather, *Carbone* decided a discrimination claim, invalidating an ordinance "allow[ing] only the favored [local] operator" to engage in a particular activity. 511 U.S. at 391. Accordingly, *Carbone* has been relied on for discrimination analyses, even in cases that present both extraterritorial regulation and discrimination claims. *See PhRMA v. County of Alameda*, 768 F.3d 1037, 1041, 1043-1044 (9th Cir. 2014).

[11] AFPM's challenge to Oregon's regulation (Case No. 15-35834) was heard by this Court on March 6, 2018.

and other courts, are well-equipped to evaluate those regulations—to decide, for example, whether lifecycle analysis or similar factors are being used as a guise for economic protectionism or whether those regulations create an excessive burden on interstate commerce under the *Pike* balancing test. *See Epel*, 793 F.3d at 1174-1175.

Plaintiffs' extraterritoriality challenges fail, and this Court should affirm the grant of judgment for Defendants on these claims.

III. THE LCFS DID NOT, AND DOES NOT, DISCRIMINATE AGAINST OUT-OF-STATE CRUDE OILS

A. *Rocky Mountain* Correctly Rejected Plaintiffs' Claims of Discrimination Against Out-of-State Crude Oils Under the Original LCFS

With regard to its claim that the original LCFS's crude oil provisions were discriminatory, AFPM concedes that there is nothing for this panel to address because *Rocky Mountain* considered and decided all of these claims. AOB 51. AFPM is correct. *Rocky Mountain*, 730 F.3d at 1097-1100. These claims are also moot. *See* Sec. I.

AFPM nonetheless attacks *Rocky Mountain*, mischaracterizing the original crude oil provisions as providing a "direct commercial advantage" to certain California crude oils. *See* AOB 47. No such commercial advantage was provided to any California crude because every crude oil was

assigned *exactly the same* carbon-intensity value. *See* SER 64; RJN, Exh. A at 3. Plaintiffs fail to explain how "it [was] more difficult for regulated parties to comply with the LCFS" when they purchased one crude oil over another, given that all crudes were assigned the same value. *See* AOB 48.

The use of identical values alone negates AFPM's attempted analogy to the tax exemption in *Bacchus Imports, Ltd. v. Dias*, 468 U.S. 263 (1984). *See* AOB 49-50. The tax exemption challenged in that case only applied to certain in-state products, conveying a potential pricing advantage to those products over their competitors. *Bacchus*, 468 U.S. at 267. In contrast, assigning identical carbon-intensity values to a wide array of crude oils from diverse locations provides none of them with a competitive advantage and does not discriminate. *See Exxon*, 437 U.S. at 126.

And even if differences between "actual" and "assigned" carbon-intensity values could constitute competitive advantages or disadvantages, by this measure (AFPM's measure), California crude oils were among the most heavily disadvantaged. *Rocky Mountain*, 730 F.3d at 1099 (noting "California Primary" crude "suffered more" than out-of-state crudes). The law in *Bacchus*, in contrast, did not cause any in-state interests to suffer *more* than any out-of-state interests.

Plaintiffs' attempted analogy to *Carbone* is unavailing for the same reason. *See* AOB 50. The law in that case "prevent[ed] everyone except the local favored operator" from participating in the relevant business at all. *Carbone*, 511 U.S. at 389. The LCFS does nothing of the kind, and Plaintiffs do not allege otherwise. As this Court correctly held, the carbon-intensity values for crude oil under the original LCFS did not "insulate California firms from out-of-state competition." *Rocky Mountain*, 730 F.3d at 1100.

This Court also correctly held that the "few quotes" Plaintiffs pluck "from an expansive record … do not plausibly relate to a discriminatory design" and, instead, are "'easily understood, in context, as economic defense of a [regulation] genuinely proposed for environmental reasons.'" *Id*. at 1100 n.13 (quoting *Clover Leaf*, 449 U.S. at 463 n.7, modification in original).[12] That holding is entirely consistent with the case law. *See Alliance of Auto Mfrs. v. Gwadosky*, 430 F.3d 30, 37-39 (1st Cir. 2005)

[12] AFPM also mischaracterizes the record. For example, it claims that, in "CARB's judgment," the LCFS would preserve "the market share of oil produced in California." *See* AOB 47. The cited page (ER 498) says only that the LCFS will "reduce[] our dependence on foreign oil" in concert with a federal fuels program designed to do just that. An assertion that the LCFS would help advance a congressional objective hardly establishes protectionism.

(rejecting discriminatory purpose claim while noting that States need not be "blind" to in-state economic circumstances or effects); *Valley Bank of Nev. v. Plus Sys., Inc.*, 914 F.2d 1186, 1196 (9th Cir. 1990) (rejecting discriminatory purpose claim based on "statements plucked out of the legislative history" showing "predictable concern for [State's] residents"). Further, a law should not be presumed to have a purpose that it cannot achieve, and, assigning all crude oils the same carbon-intensity value could not plausibly protect California crude oil from outside competition.

This Court correctly rejected AFPM's challenges to the original crude oil provisions, and there is no reason to reconsider those challenges now.

B. AFPM's Discrimination Claims Regarding the Current Crude Oil Provisions Fail Under *Rocky Mountain* and Other Binding Precedent

AFPM concedes that *Rocky Mountain* also controls its claims of discrimination against out-of-state crude oils under the 2012 amendments and the new LCFS. AOB 55.[13] Specifically, AFPM "alleged that [these later crude oil provisions] carried forward the discriminatory design in the Original LCFS." AOB 51; *see also id.* at 25. Underscoring the point, AFPM relies, for this claim, on the identical, isolated statements from the

[13] All claims regarding the repealed 2012 amendments are moot. *See* Sec. I.

2009 LCFS rulemaking that it relied on for its rejected discriminatory purpose claim in *Rocky Mountain*. *Compare* SER 2, 13-14 *with* AOB 47, 49-50.[14] Since AFPM alleges no meaningful differences between the new provisions and the ones upheld in *Rocky Mountain*, the district court's dismissal of these claims was unquestionably correct.

AFPM's arguments are also fundamentally and fatally flawed. AFPM focuses its attack on the first step of the two-step process for calculating crude oil deficits, claiming that the use of the 2010 baseline average value to determine base deficits advantages high-carbon crudes in California. AOB 52. This argument assumes that California is constitutionally required to apply individualized carbon-intensity values to each crude oil. *See id*. But the Commerce Clause is not a guarantee that businesses may operate, or be regulated, in the way they most prefer. *See Exxon*, 437 U.S. at 127. Nor does the Commerce Clause preclude California from rewarding only alternative fuels for their individualized carbon intensities, particularly where this distinction is based, not on origin, but on the environmental and

[14] Statements from the original LCFS rulemaking in 2009 do not establish the purpose of the new LCFS, adopted in 2015 through a different proceeding on a different record. *See Smithfield Foods, Inc. v. Miller*, 367 F.3d 1061, 1065-1066 (8th Cir. 2004).

public health consequences of petroleum-based fuels as compared to alternative fuels.[15] *See* SER 127, 141-143, 147.

The Commerce Clause, of course, prohibits protectionist discrimination—"regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors." *Kentucky v. Davis*, 553 U.S. 328, 338 (2008) (internal quotation omitted). This requires consideration of whether the *actual treatment* of products protects in-state interests from outside competition. But AFPM never explains why the step-one use of the *same* average carbon-intensity value for *all* crude oils would cause someone in the California crude market to prefer an in-state crude over an out-of-state crude. The base-deficit consequences of every single crude are the same, meaning that step one provides no reason to choose one particular crude over any other crude. It is hard to see how this conveys an advantage to any crude at all, and it certainly conveys no prohibited

[15] AFPM implies that CARB's decision to assign carbon-intensity values differently to crude oils than to ethanols is somehow discriminatory. *E.g.*, AOB at 10. But AFPM neither alleges nor argues that these types of fuels are "substantially similar" such that differential treatment of them could be discrimination under the Commerce Clause. *See General Motors Corp. v. Tracy*, 519 U.S. 278, 298-299 (1997). Further, as this Court recognized, these categories of fuels present different risks to California, and the Constitution does not require California to ignore those differences. *Rocky Mountain*, 730 F.3d at 1085-1085.

advantage based on origin. *Contra Bacchus*, 468 U.S at 265 (tax exemption for specific local industries); *Chem. Waste*, 504 U.S. at 342 ("burdensome taxes imposed on interstate commerce alone"); *Best & Co. v. Maxwell*, 311 U.S. 454 (1940) (tax "required of out-of-state retailers but not of their real local competitors").

By analogizing to a classroom in which a teacher gives every student a "B," regardless of how well each student actually performed, AFPM suggests that the use of identical, average values is unfair. *See* AOB at 52. But, setting aside whether classrooms are appropriate analogies for markets, AFPM does not allege that crude oil producers earn their individualized carbon-intensity values in anything like the way that students earn their grades. Further, the dormant Commerce Clause is not a kind of generalized shield against any perceived unfairness. *See Exxon*, 437 U.S. at 127. For example, when Maryland essentially gave all refiners "F"s, prohibiting them from operating in the State's retail gasoline market, there was no discrimination, regardless of whether each refiner somehow deserved its "F", because the "grades" were not assigned based on origin. *Id.* at 125-126; *see also Or. Waste Systems, Inc. v. Dep't of Envt'l Quality*, 511 U.S. 93, 99 (1994) ("'[D]iscrimination' simply means differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the

latter."). Step one's use of identical values for *all* crude oils does not distinguish based on origin and is, therefore, not discriminatory.

Further, even accepting AFPM's measure of discrimination—the difference between a crude's individualized carbon intensity and the average value used for base-deficit generation—there is no discrimination here because low-carbon crudes produced in California "suffer[] more" than low-carbon crudes from out-of-state. *See Rocky Mountain*, 730 F.3d at 1099. AFPM does not allege these facts have changed. In other words, under AFPM's own definition of discrimination, the use of average carbon-intensity values does not benefit in-state interests by burdening out-of-state competitors. Rather, any "benefits" go to all high-carbon crudes, regardless of origin, and any "burdens" go to low-carbon crudes, regardless of origin. That is not discrimination. *See Exxon*, 437 U.S. at 126.

Finally, the second step of the deficit-generation process for crude oils underscores that the LCFS creates no economic advantage for high-carbon crudes produced in California or anywhere else. AFPM disregards this step entirely, but that improperly "divorce[s]" "two parts of an integrated regulation." *See West Lynn Creamery, Inc. v. Healy*, 512 U.S. 186, 201 (1994). As part of the second step, CARB calculates the new average carbon intensity of the crudes consumed in California the previous year.

2015 LCFS § 95489(c)(3) (D-ADD-50-51). And if that average is higher than it was in 2010, all crudes incur additional, incremental deficits to account for that increase. *Id.* § 95489(c). Thus, all regulated parties understand that if they sell large volumes of high-carbon crudes in California, they run the risk of triggering these incremental deficits. Therefore, to the extent there is an advantage for any crude in California's market, that advantage inheres to lower-carbon crudes, regardless of origin, because those crudes pose no risk of triggering incremental deficits.

This Court should affirm the district court's grant of judgment for Defendants on AFPM's discrimination claims against the crude oil provisions.

IV. THE LCFS DID NOT, AND DOES NOT, DISCRIMINATE AGAINST OUT-OF-STATE ETHANOLS

This Court correctly rejected Plaintiffs' claims that the original LCFS facially discriminated against out-of-state ethanols. *Rocky Mountain*, 730 F.3d at 1097. As Plaintiffs concede, that decision forecloses any facial discrimination claim as to the new LCFS. *Rocky Mountain* also forecloses Plaintiffs' claims of purposeful discrimination against out-of-state ethanols because, while *Rocky Mountain* resolved a purposeful discrimination claim only with respect to crude oils, Plaintiffs' ethanol claim is based on exactly

the same set of facts. ER 28, 30-31. None of Plaintiffs' ethanol-related discrimination claims has any merit, and the district court's grant of judgment should be affirmed.

A. This Court Correctly Rejected Plaintiffs' Ethanol Discrimination Claim in *Rocky Mountain*

With regard to the claim that the original LCFS facially discriminated against out-of-state ethanol, Plaintiffs acknowledge, as they must, that *Rocky Mountain* controls and requires affirmance of the district court's judgment. AOB 56. Further, if there were any arguable challenge presented here, it would be moot. *See* Sec. I. Although they concede there is nothing for this Court to decide on this issue, Plaintiffs nonetheless engage in an unfounded attack on *Rocky Mountain.* That attack mischaracterizes this Court's decision and the relevant case law.

For example, Plaintiffs claim that this Court improperly considered the purpose of the LCFS when deciding that the regulation was not facially discriminatory. AOB 57-58. But this Court clearly explained, in text Plaintiffs ignore, that when it described the LCFS's "reason for the distinction" among fuels, it was not describing the *purpose* of the distinction but, rather, the *basis* for the distinction. Immediately after noting "there is a nondiscriminatory reason" for differential treatment of higher-carbon fuels,

this Court wrote: "Stated another way, if producers of out-of-state ethanol actually cause more GHG emissions for each unit produced, … CARB can *base its regulatory treatment* on these emissions." *Rocky Mountain*, 730 F.3d at 1090 (emphasis added). The Supreme Court has used the word "reason" this same way. *See Carbone*, 511 U.S. at 390 (describing prohibition against "laws that … discriminate against an article of commerce *by reason of* its origin or destination out of State") (emphasis added). This Court's decision was entirely consistent with precedent, and Plaintiffs' mischaracterizations do not establish otherwise.

Plaintiffs' claim that the *Rocky Mountain* Court "dismissed" Supreme Court precedent as "archaic formalism" is equally baseless. *See* AOB 58. Rather, this Court was quite clearly describing *Plaintiffs'* arguments when it used that phrase. *Rocky Mountain*, 730 F.3d at 1107.

As this Court correctly concluded, the original LCFS employed "rigorous" methods "to accurately measure" greenhouse gas emissions of fuels sold in California. *Rocky Mountain*, 730 F.3d at 1095-1096. While Plaintiffs cite to numerous cases invalidating facially discriminatory laws that made distinctions among products based on their origin, they identify no case in which regulatory distinctions based on rigorous measures of actual differences in harms were held to be discriminatory. *See* AOB 59 n.15.

Further, Plaintiffs continue to advance their unsupported analytical framework—under which a court could invalidate a state law as discriminatory based on a comparison of cherry-picked competitors rather than an analysis of all the competitors in the market. *See* AOB 8, 64 (comparing only ethanols Plaintiffs call "counterparts" and disregarding the rest of the ethanol market). This Court correctly rejected that framework because it directly contravenes Supreme Court precedent. *See Rocky Mountain*, 730 F.3d at 1088-1089; *see also Bacchus*, 468 U.S. at 269.

Unlike facially discriminatory laws, the LCFS does not isolate California "from the national economy." *See Philadelphia v. New Jersey*, 437 U.S. 617, 627 (1978). Rather, it encourages the development and production of lower-carbon alternatives to petroleum, wherever that development and production may occur. *See* ER 94, 95-96. This Court's rejection of Plaintiffs' facial discrimination claims is entirely consistent with precedent, and this appeal presents no reason to reconsider that decision.

B. Plaintiffs' Claims that the Current LCFS Discriminates Against Out-of-State Ethanol Fail Under *Rocky Mountain* and Other Binding Precedent

With respect to their claims that the new LCFS discriminates against out-of-state ethanols, Plaintiffs concede that these claims, too, are foreclosed by *Rocky Mountain*'s reasoning. AOB 61. That is true and suffices to

affirm the district court's grant of judgment for Defendants. But *Rocky Mountain* is not the only fatal problem with these claims.

Notably, Plaintiffs have not actually asserted a facial discrimination claim against the *new* LCFS. Instead, they argue that the *original* LCFS was facially discriminatory and that "[t]he core principles and policies of th[at] LCFS regulation remain in the current version." AOB 25 (internal quotation omitted); *see also id.* at 61. Plaintiffs likewise argue that the "nature and design" of the current LCFS is discriminatory. *Id.* at 25. But Plaintiffs cite no precedent finding *facial* discrimination based on "principles and policies" or a program's "nature and design," as opposed to actual regulatory text. And Plaintiffs nowhere identify any reference to an ethanol's origin in the text of the new regulation. Thus, Plaintiffs' facial discrimination claim fails, as a matter of law, even apart from *Rocky Mountain*.

Instead of identifying allegedly discriminatory regulatory text, Plaintiffs attack aspects of the lifecycle analysis they would like CARB to exclude from that analysis—specifically the emissions associated with the use of electricity and with transportation. AOB 61-63. Because Plaintiffs' voluntarily dismissed their claims of discriminatory effects (AOB 16 n.16), these arguments can only be viewed as attempts to establish a discriminatory

purpose. But these attacks on components of the lifecycle analysis do not support such a claim.

Plaintiffs do not dispute that emissions from these activities are part of every scientific, peer-reviewed model that measures the lifecycle emissions of transportation fuels. Plaintiffs cannot claim, therefore, that the inclusion of these activities reflects anything other than an intent to employ well-established science. Likewise, Plaintiffs do not dispute that the emissions differences in the peer-reviewed, lifecycle model that California uses are real. Indeed, Plaintiffs cite to material from the U.S. Environmental Protection Agency that *supports* the accuracy of the electricity emissions in CARB's model. *See* AOB 62 n.17. And Plaintiffs identify no authority for their rather remarkable, albeit somewhat implicit, proposition for which they cite to this material—that recognizing the same, real differences in electricity emissions that the federal government does somehow demonstrates a discriminatory purpose.

Plaintiffs also identify no authority for their more explicit proposition—that California must omit these scientifically-determined and real differences in emissions from its lifecycle modeling because, according to Plaintiffs, the inclusion of these verified emissions disadvantages Midwest ethanol. *See* AOB 61-65. For one thing, as this Court correctly

concluded, activities like the use of electricity or the transportation of feedstocks and fuels are not proxies for origin, and the inclusion of emissions from those activities does not always, or even often, result in higher carbon intensities for out-of-state fuels. *Rocky Mountain*, 730 F.3d at 1083-1084, 1090, 1091-1092; SER 114-117.

Further, the Commerce Clause neither requires States to ignore real, harmful differences in products nor entitles businesses to dictate to States which measures of harm to include or exclude. *Rocky Mountain*, 730 F.3d 1090, 1097. Just as Maryland could decide for itself that the operation of retail gasoline stations by refiners put Maryland consumers at risk, California may decide that the use of higher-carbon fuels puts California and its people at risk. *See Exxon*, 437 U.S. at 120-121. And just as Maryland could then disadvantage refiners by prohibiting them from operating retail stations in the State, although they were all located elsewhere, California may disadvantage higher-carbon fuel producers by requiring reductions in average carbon intensity over time, even though some out-of-state fuel producers may be negatively impacted. *See id.* at 125. The happenstance of the location of particular producers does not immunize those producers from a State's product regulations when the producers choose to sell their product in that State. *See id.*

Indeed, Plaintiffs' argument, taken to its logical conclusion, would mean that Minnesota could not favor paper milk cartons over plastic containers, for milk sold in its State, because doing so would disadvantage producers of the raw material for plastic—who all happen to be located outside the State. *See Clover Leaf*, 449 U.S. at 473. Yet, the Supreme Court upheld that very law under those very conditions. *Id.* Plaintiffs' view of the law is unsupported and was properly rejected in *Rocky Mountain*.

Plaintiffs also continue to characterize the LCFS as stripping away, or neutralizing, advantages the Midwest ethanol industry has earned, claiming that the LCFS raises costs for out-of-state producers while leaving in-state producers unaffected. AOB 64. These arguments have no basis in Plaintiffs' complaints, as is evident from Plaintiffs' failure to identify a single factual allegation that, if true, would support these contentions. *See* AOB 61-65. Nor would any supporting allegations be plausible. California has had enforceable carbon-intensity standards for more than seven years now. Yet, the Midwest ethanol industry continues to expand while California continues to produce little ethanol. *See* RJN, Exhs. F, G. And out-of-state ethanols continue to obtain many of the lowest carbon-intensity values. RJN, Exh. H. These facts underscore the absence of any discrimination against out-of-state ethanols.

Plaintiffs' cases are also inapposite. For example, *Hunt v. Washington State Apple Advertising Commission*, 432 U.S. 333 (1977), held that when one State's apple producers had invested in an "expensive inspection and grading system" that had "gained nationwide acceptance in the apple trade," another State could not eliminate the advantages earned under that system in order to favor in-state apple producers. *Id.* at 351. Contrary to Plaintiffs' arguments, *Hunt* does not establish that routine investments made by *all* ethanol producers—*e.g.*, plant construction expenditures—constitute similar earned advantages or that a decision to build a plant in a particular place provides some kind of constitutional protection. *See* AOB 64.[16] And Plaintiffs argument that the higher cost of electricity in California means that Midwest plants have earned a constitutionally protected advantage turns *Hunt* on its head: the advantages in that case were *earned* by paying *more* to develop brand recognition. *See* AOB 62; *see also Hunt*, 432 U.S. at 336-337 (describing costs incurred to earn advantage); *Rocky Mountain*, 730 F.3d at

[16] The only "fact" Plaintiffs point to as establishing advantages Midwest ethanol producers have supposedly earned is an estimate CARB made *in 2009* for the cost of building hypothetical ethanol plants *in California*. *See* AOB 64 (citing ER 482-483). Even if Plaintiffs had pleaded such cost estimates (which they have not), those allegations would neither establish *pre-LCFS* investments *for Midwest* ethanol plants nor demonstrate that construction costs—which all plants incur—are some kind of constitutionally protected earned advantage.

1092 ("Access to cheap electricity is an advantage, but it was not 'earned' in the sense meant by *Hunt*.").

Likewise, the LCFS bears no resemblance to the state program invalidated in *West Lynn Creamery*. *See* AOB 64-65. That program imposed a monthly charge on all businesses selling milk in the State, including out-of-state businesses, and then used the resulting funds to subsidize only in-state milk producers. *W. Lynn Creamery*, 512 U.S at 190-191. The LCFS imposes the same carbon-intensity standard on everyone selling finished fuel for use in California and applies the same lifecycle analysis to all ethanols to calculate their carbon-intensity values. Ethanols generate credits or deficits based entirely on those carbon-intensity values, not on origin. There is no in-state-only subsidy, and *West Lynn Creamery* is wholly inapplicable here. *See Rocky Mountain*, 730 F.3d at 1092-1093.

In addition, and contrary to Plaintiffs' claims, the LCFS is not a "buy local" policy. *See* AOB 63. It is a "sell lower-carbon fuel in California" policy that, by design and in effect, ensures that California consumers reduce their contribution to the very serious threats climate change poses to the State. The LCFS encourages and rewards investments in cleaner fuels by providing a stable market and financial rewards for sales of those fuels in California. ER 94, 95-96. Any and all fuel producers or would-be fuel

producers—across the country and around the globe—can and do take advantage of that stable market and those rewards by producing lower-carbon fuels for sale in California. *See id.*; RJN, Exh. H. Thus, the LCFS does not "place [California] in a position of economic isolation" and does not violate the Commerce Clause. *See Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511, 527 (1935).

Finally, Plaintiffs claim that the new LCFS is "*more* discriminatory" than the original because, they assert, the ability to obtain individualized carbon-intensity values has been "significantly curtailed" "to the further detriment of Midwest ethanol." AOB 65. This contention is directly contradicted by the operative complaints, one of which alleges only that differences in the new LCFS are "slight" and the other of which alleges no differences at all. *See* ER 113, ER 127; *see also* AOB 22 (noting "no material difference between the ethanol provisions contained in the three versions of the LCFS") (internal quotation omitted).

Plaintiffs' contention of more discrimination under the new LCFS is also directly contradicted by the new regulation itself. Each alternative fuel, including every ethanol, receives its own individualized carbon-intensity value under Tier 1 (for conventionally-produced, well-established fuels) or under Tier 2 (for less well-known fuels). *See* 2015 LCFS § 95488(b), (c)

(D-ADD-15-38); *see also* RJN, Exh. H.[17] Plaintiffs are simply wrong when they assert that Midwest ethanols must use "default" values and that the new LCFS reduces the availability of individualized carbon-intensity values for ethanols. There is, thus, no basis for their largely conclusory argument that the new LCFS is somehow more discriminatory. *See* AOB 65.

The original LCFS distinguished among ethanols based on rigorously calculated greenhouse gas emissions, not based on origin, and the new LCFS does the same. There is no basis for a claim that the LCFS discriminates against out-of-state ethanols, on its face or in its purpose. The district court properly dismissed these claims, and that decision should be affirmed.

CONCLUSION

For the foregoing reasons, Defendants and Defendant-Intervenors respectfully request that this Court affirm the decisions below.

[17] The exception would be the rare circumstance in which the individualized carbon intensity of the ethanol cannot be determined due, for example, to an inability to identify the producer. *See* 2015 LCFS § 95488(d)(1) (D-ADD-44).

Dated: March 23, 2018

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STATEMENT OF RELATED CASES

The following related case is pending and was argued before this Court on March 6, 2018: *AFPM v. O'Keeffe*, No. 13-35834.

Dated: March 23, 2018

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CIRCUIT RULE 25-5(E) ATTESTATION

I certify that all other parties on whose behalf this filing is submitted concur in the filing's content.

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CERTIFICATE OF COMPLIANCE

This brief complies with the length limits permitted by Ninth Circuit Rule 32-1(a). The brief is 12,966 words, excluding the portions exempted by Fed. R. App. P. 32(f). The brief's type size and type face comply with Fed. R. App. P. 32(a)(5) and (6).

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Defendants' Addendum

CALIFORNIA'S 2015 AMENDED LOW CARBON FUEL STANDARD

LOW CARBON FUEL STANDARD

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FINAL REGULATION ORDER

Adopt new sections 95480, 95481, 95482, 95483, 95483.1, 95483.2, 95484, 95485, 95486, 95487, 95488, 95489, 95491, 95492, 95493, 95494, 95495, 95496, and 95497, title 17, California Code of Regulations, to read as follows:

Subchapter 10. Climate Change
Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 7. Low Carbon Fuel Standard

§ 95480. Purpose.

The purpose of this regulation is to implement a low carbon fuel standard, which will reduce the full fuel-cycle, carbon intensity of the transportation fuel pool used in California, pursuant to the California Global Warming Solutions Act of 2006 (Health & Safety Code [H&S], section 38500 et seq.).

NOTE: Authority cited: Sections 38510, 38530, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510, 41511, and 43018 Health and Safety Code; 42 U.S.C. section 7545, and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 39515, 39516, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511 and 43000, Health and Safety Code; Section 25000.5, Public Resources Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95481. Definitions and Acronyms.

(a) *Definitions.* For the purposes of sections 95480 through 95497, the definitions in Health and Safety Code sections 39010 through 39060 shall apply, except as otherwise specified in this section or sections 95482 through 95497:

(1) "Above the rack" means sales of 10,000 gallons or more of diesel fuel at pipeline origin points, pipeline batches in transit, and at terminal tanks before the diesel has been loaded into trucks or other means of non-bulk transfer.

(2) "Account Administrator" means the person who can establish and activate user accounts for the reporting party organization as well as upload data (but not necessarily "submit" reports) into the LRT-CBTS. Account administrators with "signatory authority" may submit Quarterly and Annual Reports; initiate and view all credit transfers and credit transfer activity; access the Credit Balance ledger for the organization; and select/authorize broker(s) to represent them.

(d) *Deadline to Establish an Account.*

(1) Reporting parties who had LRT-CBTS accounts as of the date this section becomes effective must complete the steps set forth in subsection 95483.2(b), above, within 90 days of this subsection's effective date. Failure to do so will result in account closure and forfeit of any credits.

(2) All other regulated parties responsible for any transportation fuels pursuant to section 95483 must complete registration at least 30 days prior to the date for filing any report required under this subsection.

(3) An opt-in party, other than one subject to the deadline in subsection (d)(1) above, can register anytime during a calendar year. All quarterly and annual reporting is then required, beginning with the quarter in which registration was approved.

(4) Any Broker must register in LRT-CBTS prior to facilitating any LCFS credit trades.

(e) *Account Approval.* The account is established when the Executive Officer approves the application.

NOTE: Authority cited: Sections 38510, 38530, 38560, 38560.5, 38571, 38580, 39600, 39601, and 43018 Health and Safety Code; 42 U.S.C. section 7545, and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 39515, 39516, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516 and 43000, Health and Safety Code; Section 25000.5, Public Resources Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95484. Average Carbon Intensity Requirements.

(a) Starting January 1, 2011, and for each year thereafter, a regulated party must meet the average carbon intensity requirements set forth in Table 1 and Table 2 of this section for its transportation gasoline and diesel fuel, respectively, in each calendar year.

(b) *Requirements for Gasoline and Fuels used as a Substitute for Gasoline*.

Table 1. LCFS Compliance Schedule for 2011 to 2020 for Gasoline and Fuels Used as a Substitute for Gasoline.

Year	*Average Carbon Intensity (gCO_2e/MJ)*
2010	Reporting Only
2011*	95.61
2012	95.37
2013**	97.96
2014	97.96
2015	97.96
2016***	96.50
2017	95.02
2018	93.55
2019	91.08
2020 and subsequent years	88.62

* The average carbon intensity requirements for years 2011 and 2012 reflect reductions from base year (2010) CI values for CaRFG (95.85) calculated using the CI for crude oil supplied to California refineries in 2006.
** The average carbon intensity requirements for years 2013 to 2015 reflect reductions from revised base year (2010) CI values for CaRFG (98.95) calculated using the CI for crude oil supplied to California refineries in 2010.
*** In 2015 the LCFS was readopted and the CI modeling updated. The average carbon intensity requirements for years 2016 to 2020 reflect reductions from revised base year (2010) CI values for CaRFG (98.47).

(c) *Requirements for Diesel Fuel and Fuels used as a Substitute for Diesel Fuel.*

Table 2. LCFS Compliance Schedule for 2011 to 2020 for Diesel Fuel and Fuels Used as a Substitute for Diesel Fuel.

Year	*Average Carbon Intensity (gCO_2e/MJ)*
2010	Reporting Only
2011*	94.47
2012	94.24
2013**	97.05

Year	*Average Carbon Intensity (gCO_2e/MJ)*
2014	97.05
2015	97.05
2016***	99.97
2017	98.44
2018	96.91
2019	94.36
2020 and subsequent years	91.81

* The average carbon intensity requirements for years 2011 and 2012 reflect reductions from base year (2010) CI values for ULSD (94.71) calculated using the CI for crude oil supplied to California refineries in 2006.
** The average carbon intensity requirements for years 2013 to 2015 reflect reductions from revised base year (2010) CI values for ULSD (98.03) calculated using the CI for crude oil supplied to California refineries in 2010.
*** In 2015 the LCFS was readopted and the CI modeling updated. The average carbon intensity requirements for years 2016 to 2020 reflect reductions from revised base year (2010) CI values for ULSD (102.01).

(d) *Carbon Intensity Requirements for an Alternative Fuel Other Than a Biomass-Based Diesel Fuel Intended for Use in a Single-Fuel Vehicle.*

(1) A regulated party must use the average carbon intensity value for gasoline set forth in section 95484(b) for its alternative fuel, other than biomass-based diesel fuel, if the alternative fuel is used or intended to be used in any single-fuel light- or medium-duty vehicle.

(2) A regulated party must use the average carbon intensity value for diesel fuel set forth in section 95484(c) for its alternative fuel, other than biomass-based diesel fuel, that is used or intended to be used in any single-fuel application not identified in section 95484(d)(1).

(e) *Carbon Intensity Requirements for Biomass-Based Diesel Fuel Provided for Use in a Single-Fuel Vehicle.* A regulated party must use the average carbon intensity value for diesel fuel set forth in section 95484(c) if its biomass-based diesel fuel is used or intended to be used in any single-fuel:

(1) light-, medium-, or heavy-duty vehicle;

(2) off-road transportation application;

(3) off-road equipment application;

(4) locomotive or commercial harbor craft application; or

(5) non-stationary source application not otherwise specified in subsections (1) through (4) above.

(f) *Carbon Intensity Requirements for Transportation Fuels Intended for Use in Multi-Fuel Vehicles.*

(1) For an alternative fuel provided for use in a multi-fueled vehicle, a regulated party must use:

(A) the average carbon intensity value for gasoline set forth in section 95484(b) if one of the fuels used in the multi-fuel vehicle is gasoline; or

(B) the average carbon intensity value for diesel fuel set forth in section 95484(c) if one of the fuels used in the multi-fuel vehicle is diesel fuel.

(2) For an alternative fuel provided for use in a multi-fueled vehicle (including a bi-fuel vehicle) that does not use gasoline or diesel fuel, a regulated party must use:

(A) the average carbon intensity value for gasoline set forth in section 95484(b) if that alternative fuel is used or intended to be used in a light- or medium-duty vehicle.

(B) the average carbon intensity value for diesel set forth in section 95484(c) if that alternative fuel is used or intended to be used in an application not identified in section 95484(f)(2)(A).

NOTE: Authority cited: Sections 38510, 38530, 38560, 38560.5, 38571, 38580, 39600, 39601, and 43018 Health and Safety Code; 42 U.S.C. section 7545, and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 39515, 39516, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516 and 43000, Health and Safety Code; Section 25000.5, Public Resources Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95485. Demonstrating Compliance.

(a) *Compliance Demonstration.* A regulated party's annual compliance obligation is met when the regulated party demonstrates via its annual report that it possessed and has retired a number of credits from its credit account that is equal to its compliance obligation.

(b) *Calculation of Credit Balance and Annual Compliance Obligation.*

(C) *Restrictions on the Repayment of Accumulated Deficits.* Regulated Parties may repay unmet deficits as part of a subsequent annual report. However, no repayment of any accumulated deficits is allowed unless the regulated party meets 100 percent of its current compliance obligation.

(D) *Prohibitions on Credit Transfers.* Regulated parties that have an Accumulated Deficit obligation cannot transfer or sell credits to another regulated party.

(d) *Limitations on the Use of Credits produced pursuant to sections* 95489*(f) and (g) (Related to Credits for the Refinery Investment Credit and the Renewable Hydrogen Refinery Credit).*

(1) A regulated party may use credits created pursuant to section 95489(f) to meet no more than 20 percent of its annual obligation.

(2) A regulated party may use credits created pursuant to section 95489(g) to meet no more than 10 percent of its annual obligation.

(3) Use of credits created pursuant to sections 95489(f) and (g) to retire deficits incurred pursuant to section 95489(c) shall not count against the limitations established in sections 95485(d)(1) and (2).

NOTE: Authority cited: Sections 38510, 38530, 38560, 38560.5, 38571, 38580, 39600, 39601, and 43018 Health and Safety Code; 42 U.S.C. section 7545, and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 39515, 39516, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, and 43000, Health and Safety Code; Section 25000.5, Public Resources Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95486. Generating and Calculating Credits and Deficits.

(a) *Generation and Acquisition of Transferrable Credits.*

(1) Upon submission and acceptance of a timely quarterly report, the total number of credits generated through the supply of fuels or blendstocks with carbon intensity values below that of the applicable standard will be deposited in a credit account of the applicable regulated party or credit generator. Once banked, credits may be retained indefinitely, retired to meet a compliance obligation, or transferred to other regulated parties or credit generators.

(2) *No Retroactive Credit Generation.* Unless expressly provided elsewhere in this subarticle, no credits may be generated or claimed based on section 95489 provisions, supplying electricity for transportation, or any

transaction or activity regarding a transportation fuel for any act occurring in a quarter for which the quarterly reporting deadline has passed. Notwithstanding this section, the Executive Officer may remove a credit's provisional status at any time, pursuant to section 95488 (d) and (e). Where an application or demonstration pursuant to sections 95488 or 95489 has been completed but not yet approved, the applicant may report transactions in the LRT-CBTS. When the Executive Officer approves the section 95488 or 95489 application or demonstration, the Executive Officer will recognize any credits generated during the quarter in which the approval takes place, and one previous quarter, provided that the application was complete during that previous quarter.

(3) The Executive Officer may, at the time of credit creation or credit transfer, assign a unique identification number to each credit. Credits are subject to review and audit by the Executive Officer or his designee, and credits may be reversed or adjusted as necessary pursuant to section 95495.

(4) *Acquisition of "Carryback" Credits to Meet Obligation.*

(A) *Extended Credit Acquisition Period*. A regulated party may acquire, via purchase or transfer, additional credits between January 1st and March 31st ("extended period") to be used for meeting the compliance obligation of the year immediately prior to the extended period. Credits acquired for this purpose are defined as "carryback" credits. All carryback credit transfers must be initiated in the LRT-CBTS by March 31st and completed by the buyer within 10 days as specified in section 95487(c)(1)(C)1. in order to be valid for meeting the compliance obligation of the year immediately prior.

(B) *Use of Carryback Credits*. A carryback credit may be used for the purpose of meeting the compliance of an immediate prior year if all of the conditions below are met:

1. The additional credit was acquired during the extended period;

2. The additional credit was generated in a compliance year prior to the extended period;

3. A regulated party electing to use carryback credits must identify the number and source of credits it desires to use as carryback credits in its annual compliance report submitted to the Executive Officer no later than April 30th of the year in which the additional credits were obtained; and

4. A regulated party electing to use carryback credits must:

a. acquire and retire a sufficient amount of carryback and other credits to meet 100 percent of its compliance obligation in the prior compliance year, or

b. minimize its compliance shortfall by retiring all credits in its possession at the end of the previous compliance year, as well as all credits purchased during the extended period that are eligible to be used as carry back credits.

(b) *Calculation of Credits and Deficits Generated.* The amount of credits and deficits generated in a compliance period for an LCFS fuel will be calculated within the LRT-CBTS using the methods specified in sections 95486 and 95489. The total credits and deficits generated are used in determining the overall credit balance for a compliance period, pursuant to section 95485. All credits and deficits are denominated in units of metric tons (MT) of carbon dioxide equivalent.

(1) All LCFS fuel quantities used for credit calculation must be in energy units of megajoules (MJ).

Fuel quantities denominated in other units, such as those shown in Table 3, must be converted to MJ in the LRT-CBTS by multiplying by the corresponding energy density[1]:

Table 3. Energy Densities of LCFS Fuels and Blendstocks.

Fuel (units)	*Energy Density*
CARBOB (gal)	119.53 (MJ/gal)
CaRFG (gal)	115.83 (MJ/gal)
Diesel fuel (gal)	134.47 (MJ/gal)
Pure Methane (ft^3)	1.02 (MJ/ft^3)
Natural Gas (ft^3)	1.04 (MJ/ft^3)
LNG (gal)	78.83 (MJ/gal)
Electricity (KWh)	3.60 (MJ/KWh)
Hydrogen (kg)	120.00 (MJ/kg)

[1] Energy density factors are based on the lower heating values of fuels in CA-GREET 2.0 using BTU to MJ conversion of 1055.06 J/Btu.

Undenatured Anhydrous Ethanol	80.53 (MJ/gal)
Denatured Ethanol (gal)	81.51 (MJ/gal)
FAME Biodiesel (gal)	126.13 (MJ/gal)
Renewable Diesel (gal)	129.65 (MJ/gal)

(2) The total credits and deficits generated by a regulated party in a compliance period must be calculated as follows:

$$Credits^{Gen}(MT) = \sum_{i}^{n} Credits_i^{gasoline} + \sum_{i}^{n} Credits_i^{diesel}$$

$$Deficits^{Gen}(MT) = \sum_{i}^{n} Deficits_i^{gasoline} + \sum_{i}^{n} Deficits_i^{diesel}$$

where:

$Credits^{Gen}$ represents the total credits (a zero or positive value), in units of metric tons (MT), for all fuels and blendstocks determined from the credits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

$Deficits^{Gen}$ represents the total deficits (a negative value), in MT, for all fuels and blendstocks determined from the deficits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

i is the finished fuel or blendstock index; and

n is the total number of finished fuels and blendstocks provided by a regulated party in a compliance period.

(3) LCFS credits or deficits for each fuel or blendstock supplied by a regulated party must be calculated according to the following equations:

(A) $Credits_i^{XD}/Deficits_i^{XD}(MT) = \left(CI_{standard}^{XD} - CI_{reported}^{XD}\right) \times E_{displaced}^{XD} \times C$

where:

$Credits_i^{XD}/Deficits_i^{XD}(MT)$ is either the amount of LCFS credits generated (a zero or positive value), or deficits incurred (a negative value), in metric tons, by a fuel or blendstock under the average

carbon intensity requirement for gasoline (XD = “gasoline”) or diesel (XD = ”diesel”);

$CI_{standard}^{XD}$ is the average carbon intensity requirement of either gasoline (XD = “gasoline”) or diesel fuel (XD = “diesel”) for a given year as provided in sections 95484(b) and (c), respectively;

$CI_{reported}^{XD}$ is the adjusted carbon intensity value of a fuel or blendstock, in gCO_2e/MJ, calculated pursuant to section 95486(b)(3)(B);

$E_{displaced}^{XD}$ is the total amount of gasoline (XD = “gasoline”) or diesel (XD = “diesel”) fuel energy displaced, in MJ, by the use of an alternative fuel, calculated pursuant to section 95486(b)(3)(C); and

C is a factor used to convert credits to units of metric tons from gCO_2e and has the value of:

$$C = 1.0x10^{-6}\frac{(MT)}{(gCO_2e)}$$

(B) $CI_{reported}^{XD} = \frac{CI_i}{EER^{XD}}$

where:

CI_i is the carbon intensity of the fuel or blendstock, measured in gCO_2e/MJ, determined by a CA-GREET pathway or a custom pathway and incorporates a land use modifier (if applicable); and

EER^{XD} is the dimensionless Energy Economy Ratio (EER) relative to gasoline (XD = “gasoline”) or diesel fuel (XD = “diesel”) as listed in Table 4. For a vehicle-fuel combination not listed in Table 4, $EER^{XD} = 1$ must be used.

(C) $E_{displaced}^{XD} = E_i \times EER^{XD}$

where:

E_i is the energy of the fuel or blendstock, in MJ, determined from the energy density conversion factors in Table 3, except as noted in section 95486(b)(3)(D).

(D) For Fixed Guideway Systems and Forklifts:

$E_{displaced}^{XD} = E_i$

where:

E_i is the energy of the fuel used to propel fixed guideway systems electric and hydrogen fuel cell forklifts. For fixed guideway system expansion beyond 2010, the formula for displaced energy in section 95486(b)(3)(C) may be used with Executive Officer approval.

Table 4. EER Values for Fuels Used in Light- and Medium-Duty, and Heavy-Duty Applications.

Light/Medium-Duty Applications (Fuels used as gasoline replacement)		***Heavy-Duty/Off-Road Applications (Fuels used as diesel replacement)***	
Fuel/Vehicle Combination	***EER Values Relative to Gasoline***	***Fuel/Vehicle Combination***	***EER Values Relative to Diesel***
Gasoline (incl. E6 and E10) or E85 (and other ethanol blends)	1.0	Diesel fuel or Biomass-based diesel blends	1.0
CNG/ICEV	1.0	CNG or LNG (Spark-Ignition Engines) CNG or LNG (Compression-Ignition Engines)	0.9 1.0
Electricity/BEV, or PHEV	3.4	Electricity/BEV, or PHEV* Truck Electricity/BEV or PHEV* Bus Electricity/Fixed Guideway, Heavy Rail Electricity/Fixed Guideway, Light Rail Electricity/Trolley Bus, Cable Car, Street Car Electricity Forklifts	2.7 4.2 4.6 3.3 3.1 3.8
H2/FCV	2.5	H2/FCV H2 Fuel Cell Forklifts	1.9 2.1

*BEV = battery electric vehicle, PHEV= plug-in hybrid electric vehicle, FCV = fuel cell vehicle, ICEV = internal combustion engine vehicle.

(c) *Credit Generation Frequency.* Beginning 2011 and every year afterwards, a regulated party may generate credits quarterly after the quarterly report has been

(3) Fraud, or an attempt to defraud any other entity;

(4) A false, misleading or inaccurate report concerning information or conditions that affects or tends to affect the price of a credit;

(5) An application, report, statement, or document required to be filed pursuant to this article which is false or misleading with respect to a material fact, or which omits to state a material fact necessary to make the contents therein not misleading. A fact is material if it is reasonably likely to influence a decision by a counterparty, the Executive Officer, the Board, or the Board's staff; or

(6) Any trick, scheme, or artifice to falsify or conceal a material fact, including use of any false statements or representations, written or oral, or documents made by or provided to an entity through which transactions in credits are settled, or are cleared.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, and 43018 Health and Safety Code; 42 U.S.C. section 7545, and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 39515, 39516, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516 and 43000, Health and Safety Code; Section 25000.5, Public Resources Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95488. Obtaining and Using Fuel Pathways.

(a) *Applicability*. The requirements set forth in this section shall apply to Regulated Parties and other entities that obtained fuel pathway certifications or registrations under the provisions of the previous LCFS regulation order, and to Regulated Parties and other entities that are seeking fuel pathway certifications under the provisions set forth in section 95488(c) of this regulation order. Except as provided in section 95488(a)(1) below, any fuel pathway certification that was approved under the former LCFS and any use of a fuel pathway by a fuel producer who registered under the former LCFS is automatically deactivated on the effective date of this subarticle. All fuel providers that initiate the process of securing a LCFS fuel pathway, as set forth in section 95488(c) of this regulation order on or after the effective date of this regulation order shall be bound by the provisions of this regulation order. Subsections (1) and (2), below, apply to entities that had obtained Method 1 registrations, or obtained or applied for fuel pathway certifications prior to the effective date of this regulation order.

(1) A fuel pathway certification or a registered fuel provider's use of a fuel pathway that is described in subsections (A), (B), or (C) and was in effect on December 31, 2015, may remain valid for as long as one year after the effective date of this subsection, and shall then be automatically deactivated. The Executive Officer may revoke or modify the fuel pathway

(D) The result of the Executive Officer's decisions on recertifications shall be final and not subject to further appeal. Denied applicants may submit New Pathway Request Forms pursuant to section 95488.

(3) *"Batch" processing in 2016*. Applications to recertify fuel pathway certifications, registrations that were approved under the previous LCFS (and still in effect on the date this regulation goes into effect), and new applications for fuel pathways in 2016 will, to the extent feasible, be processed in groups based on fuel type in the following order of priority: ethanol, biodiesel, renewable diesel, compressed natural gas, liquefied natural gas, and all others.

(b) *Primary Alternative Fuel Pathway Classifications.* For purposes of fuel pathway carbon intensity determination, proposed LCFS fuel pathways shall fall into one of two tiers, as described below.

(1) *Tier 1*. Conventionally-produced alternative fuels of a type that has been in full commercial production, excluding start-up or ramp-up phase, for at least three years, and for which certified LCFS pathways have existed for at least three years shall be classified into Tier 1. The term "conventionally-produced" means that the fuel was produced using grid electricity, natural gas, and/or coal for process energy; and production processes that do not include the innovative methods described in subsection 95488(b)(2)(F). Tier 1 includes, but is not limited to, the following conventionally-produced fuels:

(A) Starch- and sugar-based ethanol;

(B) Biodiesel produced from conventional feedstocks (including but not limited to plant oils, tallow and related animal wastes, and used cooking oil);

(C) Renewable Diesel produced from conventional feedstocks (including but not limited to plant oils, tallow and related animal wastes, and used cooking oil);

(D) Natural Gas; and

(E) Biomethane from landfill gas.

(2) *Tier 2*. The Tier 2 classification includes all fuels not included in Tier 1. Tier 2 fuels include, but are not limited to:

(A) Cellulosic alcohols;

(B) Biomethane from sources other than landfill gas;

(C) Hydrogen;

(D) Electricity, whether from the public grid or from dedicated, low-CI sources;

(E) Drop-in fuels (renewable hydrocarbons) except for renewable diesel produced from conventional feedstocks (including but not limited to plant oils, tallow and related animal wastes, and used cooking oil); and

(F) Tier 1 fuels produced using one or more innovative production methods. Innovative production methods include, but are not limited to:

1. Use of one or more low-CI process energy sources. In order to qualify as an innovative, low-CI process energy source, energy from that source must be directly consumed in the production process. No indirect accounting mechanisms, such as the use of renewable energy certificates, can be used to reduce an energy source's CI. Innovative, low-CI energy sources include, but are not limited to renewable electricity from a dedicated (non-grid) form of generation, such as wind turbines and photovoltaic arrays.

2. Use of unconventional feedstocks such as algae oil;

3. Carbon capture and sequestration; and

4. Production process innovations that improve production efficiency such that resulting CI is at least 20 percent lower due to the process innovation.

(3) For both Tier 1 and Tier 2 classifications, the following specific information needs to be provided for any fuel pathway carbon intensity determination:

(A) Fuel Type (renewable diesel, ethanol, etc.);

(B) Direct carbon intensity;

(C) An indirect land use change modifier (appropriate iLUC value from Table 5) or other indirect carbon intensity (if applicable); and

(D) Total pathway carbon intensity calculated as a sum from subsections 95488(b)(3)(B) and (C), above.

(c) *Specific Requirements and Procedures.* Any person may apply to the Executive Officer for the establishment of a transportation fuel pathway under the LCFS.

(1) Applicants seeking to obtain a CI under either the Tier 1 or Tier 2 provisions of this regulation order shall begin the application process by completing the online account approval process and completing the electronic New Pathway Request Form, available through the LRT-CBTS web portal (http://www.arb.ca.gov/lcfsrt). The New Pathway Request Form contains the following fields. All that apply are required.

(A) Production company name and full mailing address.

(B) USEPA Company ID for fuels covered by the U.S. Environmental Protection Agency's RFS2 program. For fuels not covered by the RFS2 program, the LRT-CBTS system will generate a Company ID.

(C) Company contact person's contact information.

1. Name
2. Title or position
3. Phone number
4. Mobile phone number
5. Facsimile number
6. Email address
7. Web site URL

(D) Facility name (or names, if more than one facility is covered by the proposed pathways).

(E) Facility address (or addresses, if more than one facility is covered by the proposed pathways).

(F) USEPA Facility ID for fuels covered by the U.S. Environmental Protection Agency's RFS2 program. For fuels not covered by the RFS2 program, the LRT-CBTS system will generate a Facility ID.

(G) Facility geographical coordinates (for each facility covered by the proposed pathways). Coordinates can be reported using either the latitude and longitude or the Universal Transverse Mercator coordinate systems.

(H) Facility contact person's contact information.

1. Name
2. Title or position

3. Phone number
4. Mobile phone number
5. Facsimile number
6. Email address

(I) Facility nameplate production capacity in million gallons per year. This information is required for each facility covered by the proposed pathways.

(J) Consultant's contact information

1. Name
2. Title or position
3. Legal company name
4. Phone number
5. Mobile phone number
6. Facsimile number
7. Email address
8. Web site URL

(K) *Pathway Tier (Tier 1 or 2)*. The applicant must declare whether the proposed fuel pathway falls under the Tier1 or Tier 2 provisions of this regulation. Once the New Pathway Request Form has been submitted, the Executive Officer will evaluate the applicant's Tier declaration and either approve or reverse it. The Executive Officer will notify the applicant in writing of the results of the evaluation process. The Executive Officer's decision shall be final and not subject to further appeal.

(L) *Tier 2 Pathway Type*. Tier 2 applicants may seek a pathway under the Tier 2 Lookup Table, Method 2A, or Method 2B provisions of this regulation. Applicants must declare whether they are seeking a Method 2A, Method 2B, or Tier 2 Lookup Table pathway. Applicants seeking Tier 2 Lookup Table pathways must report the Fuel Pathway Code of the Tier 2 Lookup Table pathway for which they are applying. The Tier 2 Lookup Table, and Methods 2A and 2B are not available to Tier 1 applicants.

(M) *Reference Pathway Information*. Tier 2, Method 2A applicants must specify the reference pathway (or pathways, if applicable) for their proposed pathways. Method 2A pathways must improve upon the reference pathway CI by an amount specified in the substantiality requirements in subsection (c)(4)(G)2. For purposes of this regulation, a reference pathway is defined as: the pathway from the Tier 2 Lookup Table (Table 6 in section 95488(c)(4)(F)) to which the proposed Method 2A pathway most closely corresponds,

as specified in section 95488(c)(4)(C), or a Method 2 pathway for which the applicant previously obtained certification, as set forth in section 95488(c)(4)(G).

The following reference pathway information must be supplied.

1. Fuel Pathway Code;
2. Fuel Type (renewable diesel, ethanol, etc.);
3. Direct carbon intensity;
4. Indirect land use change or other indirect carbon intensity (Table 5); and
5. Total pathway carbon intensity.

(N) For Tier 2 Lookup Table applications, the Tier 2 Lookup Table pathway for which the applicant is applying must be identified using the following information:

1. Fuel Pathway Code;
2. Fuel Type (renewable diesel, ethanol, etc.);
3. Direct carbon intensity;
4. Indirect land use change or other indirect carbon intensity (Table 5); and
5. Total pathway carbon intensity;

(O) The following information about the proposed Method 2A or 2B pathway (or pathways) must be provided:

1. Feedstock
2. Direct CI
3. Indirect land use or other indirect CI
4. Total CI
5. Brief pathway description
6. Annual quantity of fuel produced under proposed pathway. If the fuel is a gasoline substitute, quantities shall be reported in units of gasoline-gallon equivalents; if the fuel is a diesel substitute, quantities shall be reported in units of diesel-gallon equivalents.
7. If the plant is not currently operating at full production capacity, the date on which it is expected to reach full production capacity.
8. Will the full production volume be met by a single or multiple facilities?
9. If the full production volume will be met by multiple facilities will all facilities be owned by the same company?
10. Lower heating value (LHV) of the fuel to be produced.

11. Range of production volumes over which the proposed CI(s) are valid.

(2) Once a New Pathway Request Form has been submitted, a record for the proposed fuel pathway will be created in the LRT-CBTS system. That record will be placed into pending status, and will not be available for compliance reporting purposes until the applicant or other interested party submits, via the LRT-CBTS web portal, all information required under sections 95488(c)(3) or (4), and the Executive Officer certifies the proposed pathway. Required for all applications under both sections is a LCFS Fuel Producer Attestation Letter. Once the proposed pathway has been certified and both an electronic and paper copy of the LCFS Fuel Producer Attestation Letter have been received and approved by the Executive Officer, the LRT-CBTS record created upon submission of the New Pathway Request form will be activated. The LCFS Fuel Producer Attestation Letter shall attest to the veracity of the information in the application packet and declare that the information submitted accurately represents the long-term, steady state operation of the fuel production process described in the application packet. It shall, in addition, make the following specific attestations:

(A) No products, co-products, by-products, or wastes undergo additional processing, such as drying, distillation, or clean-up, once they leave the production facility, except as explicitly included in the pathway life cycle analysis and pathway CI.

(B) The fuel that will be reported under the newly certified pathway will conform to the fuel pathway described in the Tier 1 or Tier 2 application in all areas, including, but not limited to the following:

1. Feedstocks used to produce the fuel;
2. Fuel and feedstock production technology;
3. Regions in which feedstocks and finished fuel are produced;
4. Modes used to transport feedstocks and finished fuel and the transport distances involved;
5. Types and amounts of thermal and electrical energy consumed in both feedstock and finished fuel production;
6. Full life cycle carbon intensity, which must be no higher than the carbon intensity specified in the Tier 1 or Tier 2 application; and
7. Fuel production operations, which shall conform at all times with the fuel pathway described in the Tier 1 or Tier 2 application.

(C) The LCFS Fuel Producer Attestation Letter shall:

1. Be the original copy. Photocopies, scanned electronic copies, facsimiles, and other non-original documents will not be accepted in lieu of a signed original. A scanned copy of the signed original shall also be submitted via upload to the LRT-CBTS portal;
2. Be on company letterhead;
3. Be signed in blue ink by an officer of the applicant with the legal authority to attest to the veracity of the information in the application and to sign on behalf of the applicant;
4. Be from the applicant and not from an entity representing the applicant (such as a consultant or legal counsel); and
5. Include the following attestation:

I certify that the current fuel production process used to produce _____ (fuel) at the _____ facility is consistent in all of the following areas with all information submitted to ARB in connection with the pathway request: 1) feedstocks used in fuel production; 2) fuel and feedstock production technology; 3) geographic region in which feedstocks and finished fuel are produced; 4) transportation modes used to transport feedstocks and finished fuel and transport distances; 5) types and amounts of thermal and electrical energy consumed in both feedstock and finished fuel production; and 6) any other applicable fuel pathway standard or operating condition established by ARB. The carbon intensity (CI) of the fuel must be no higher than the CI for the certified FPC.

I understand that the following facility information will be posted on the LCFS website: Facility Name, Facility Address, Company ID, Facility ID, Fuel Pathway Code(s), CI values, Fuel Pathway Description(s), Physical Pathway Code(s) and Physical Pathway Description(s).

By submitting this form, _____(Fuel Production Company) accepts responsibility for the information herein provided to the ARB. I certify under penalty of perjury under the laws of the State of California that I have personally examined, and am familiar with, the statements and information submitted in this document. I certify that the statements and information submitted to ARB are true, accurate, and complete.

_____	_____	_____
Signature	Print Name & Title	Date

Table 5. Summary of iLUC Values

Biofuel	iLUC (gCO_2/MJ)
Corn Ethanol	19.8
Sugarcane Ethanol	11.8
Soy Biodiesel	29.1
Canola Biodiesel	14.5
Sorghum Ethanol	19.4
Palm Biodiesel	71.4

(3) *Tier 1 Pathways*.

(A) Once an applicant has submitted a New Pathway Request form, and been notified by the Executive Officer that the pathway described in the New Pathway Request Form falls under the Tier 1 provisions found at section 95488(b)(1), the applicant shall calculate its pathway carbon intensities using the CA-GREET 2.0 Tier 1 calculator (CA-GREET2.0-T1) found at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm and submit the following information to the Executive Officer for processing and verification.

1. A CA-GREET2.0-T1 model with the Tier 1 calculator interface completed. The Tier 1 calculator interface requires the applicant to enter information including, but not limited to feedstock transport modes and distances, fuel production energy use, electrical generation energy mixes, and finished fuel transport modes and distances. All applicants using grid electricity must choose electrical generation energy mixes from among the 26 subregions in the ninth edition of the U.S. EPA's Emissions and Generation Resource Integrated Database (eGRID). CA-GREET2.0-T1 contains these eGRID subregional energy mixes.

2. Invoices and receipts for all forms of energy consumed in the fuel production process, all fuel sales, all feedstock purchases, and all co-products sold. Invoices shall be submitted in electronic form. Each set of invoices shall be accompanied by a spreadsheet summarizing the invoices. Every invoice submitted shall appear as a record in the summary. Each record shall, at a minimum, specify in a

separate column the period covered by the purchase, the quantity of energy purchased during that period, the invoice amount, and any special information that applies to that record (the special information column need not be populated for every record). For each form of energy consumed, the two-year total and average consumption shall be reported in the spreadsheet. These two-year totals and averages shall be used to calculate the per-million-Btu and per-megajoule energy consumption inputs used to calculate the life cycle CI of the fuel pathway.

a. *Period Covered.* The period covered shall be the most recent two-year period of relatively typical operation.

b. *Production Processes Covered.* The invoices submitted under this provision shall cover the energy consumed in all unit operations devoted to feedstock handling and pre-processing; fuel production; co-product handling and processing; waste handling, processing, and treatment; the handling, processing and use of chemicals, enzymes, and organisms; the generation of process energy, including the generation, handling and processing of combustion fuels; and all plant monitoring and control systems. If the fuel produced or any by-products or co-products receive additional processing after they leave site, such as additional distiller's grains drying or fuel distillation, invoices covering the energy consumed for those processes must also be submitted. If the fuel production facility is co-located with one or more unrelated facilities, and energy consumption invoices are not separately available for the fuel production process, the applicant shall obtain a third-party energy audit sufficient to establish the long-term, typical energy consumption patterns of the fuel production facility.

3. In lieu of receipts or invoices for energy consumption, fuel sales, feedstock purchases, or co-product sales, the applicant may seek Executive Officer approval to submit audit reports prepared by independent, third-party auditors that document energy consumption, fuel sales, feedstock purchases, or co-product sales.

4. *RFS2 Third Party Engineering Report.* A copy of the federal Renewable Fuel Standard 2 (RFS2) Third Party Engineering Review Report required pursuant to 40 CFR 80.1450, if available, is required.

5. A signed LCFS Fuel Producer Attestation Letter, as set forth in section 95488(c)(2).

(B) Upon verifying the applicant's pathway carbon intensity, the Executive Officer will certify the application by posting it to the LCFS Fuel Pathway Certification web page (http://www.arb.ca.gov/fuels/lcfs/2a2b/2a-2b-apps.htm), and activate the inactive record created for the pathway upon submission of the New Pathway Request Form (as set forth in section 95488 (c)(2)). If the Executive Officer cannot verify the applicant's pathway carbon intensity, he or she will deny the pathway without prejudice, and notify the applicant in writing of that denial.

(4) *Tier 2 Pathways*. An applicant may apply for a Tier 2 pathway using either the Tier 2 Lookup Table or Method 2, as set forth in this section.

(A) All fuel pathways certified under Method 2 are available for inspection on the LCFS Fuel Pathway web page, which can be accessed at this address: http://www.arb.ca.gov/fuels/lcfs/fuelpathways/fuelpathways.htm.

(B) A regulated party for CARBOB, gasoline, or diesel fuel must use the Tier 2 Lookup Table~~s~~, as set forth in section 95488(c)(4)(C), to determine the carbon intensity of the CARBOB, gasoline, or diesel for which it is responsible.

(C) *Tier 2 Lookup Table Pathways*. The provisions set forth in this section apply exclusively to proposed LCFS fuel pathways that do not fall under the Tier 1 provisions found in section 95488(c)(3). An applicant may apply for a Tier 2 fuel pathway using the Tier 2 Lookup Table if the Tier 2 Lookup Table (Table 6 in section 95488(c)(4)(F)) contain fuel pathways that closely correspond to the regulated party's actual physical fuel production pathways. A regulated party's actual physical fuel production pathway corresponds closely with a Tier 2 Lookup Table pathway when it is consistent with the Tier 2 Lookup Table pathway in all the following areas:

1. Feedstocks used to produce the fuel;
2. Fuel and feedstock production technology;

3. Regions in which feedstocks and finished fuel are produced;
4. The modes used to transport feedstocks and finished fuel and the transport distances involved;
5. The types and amounts of thermal and electrical energy consumed in both feedstock and finished fuel production. This applies both to the energy consumed in the production process, but also to the upstream energy consumed (e.g., fuels used to generate electricity; energy consumed to produce natural gas, etc.); and
6. The CI of the regulated party's product must be lower than or equal to the Tier 2 Lookup Table pathway CI. If the Executive Officer determines that the regulated party's product has an actual CI that is likely to be higher than the Tier 2 Lookup Table pathway CI, the regulated party shall prepare a Method 2A or 2B application for a pathway-specific CI.

(D) *Tier 2 Lookup Table Pathway Application Submission Requirements.*

1. *Energy Invoices*. The applicant shall submit Invoices, as set forth in section 95488(c)(3)(A)2., covering a period of no less than two years for all forms of energy consumed in the fuel production process.

2. *RFS2 Third Party Engineering Report*. A copy of the federal Renewable Fuel Standard 2 (RFS2) Third Party Engineering Review Report required pursuant to 40 CFR 80.1450, if available, is required.

3. A signed LCFS Fuel Producer Attestation Letter, as set forth in section 95488(c)(2).

(E) An applicant's choice of carbon intensity value from the Tier 2 Lookup Table is subject in all cases to Executive Officer approval, as specified in this section.

1. If the Executive Officer has reason to believe that the regulated party's choice is not the value that most closely corresponds to its fuel pathway CI, the Executive Officer shall choose a carbon intensity value from the Tier 2 Lookup Table for the fuel, which the Executive Officer determines is the one that most closely corresponds to the pathway for that fuel.

2. If the Executive Officer has reason to believe that the Tier 2 Lookup Table does not contain a fuel pathway that closely corresponds with the regulated party's fuel pathway, as specified in subsection (4)(C), above, the regulated party will not be allowed to use the Tier 2 Lookup Table to obtain a LCFS fuel pathway.

(F) A carbon intensity value can be used under the provisions set forth in subsections (C) through (E) above only if it appears in the Tier 2 Lookup Table (Table 6). To generate the values appearing in Table 6, the Executive Officer shall use

1. One of the following:

a. The Tier 1 California-modified GREET model, version 2.0 (CA-GREET2.0-T1, September 29, 2015), which is incorporated herein by reference,

b. The Tier 2 California-modified GREET model, version 2.0 (CA-GREET2.0 T2, September 29, 2015), which incorporated herein by reference, or

c. Another model determined by the Executive Officer to be equivalent or superior to CA-GREET 2.0, and

2. An indirect land-use change modifier from Table 5, when applicable.

The Carbon Intensity Lookup Table, shown below, specifies the carbon intensity values for the enumerated fuel pathways that are described in the following supporting documents, all of which are incorporated herein by reference:

Industrial Strategies Division, Air Resources Board. December 15, 2014. Low Carbon Fuel Standard (LCFS) Pathway for the Production of Biomethane from the Mesophilic Anaerobic Digestion of Wastewater Sludge at a Publicly-Owned Treatment Works (POTW). Version 2.0. Pathways CNG020 and CNG021.

Industrial Strategies Division, Air Resources Board. December 15, 2014. Low Carbon Fuel Standard (LCFS) Pathway for the Production of Biomethane from High Solids Anaerobic Digestion (HSAD) of

Organic (Food and Green) Wastes. Version 2.0. Pathway CNG005.

Industrial Strategies Division, Air Resources Board. December 15, 2014. Detailed CA-GREET Pathway for Ultra Low Sulfur Diesel (ULSD) from Average Crude Refined in California. Version 3. Pathway ULSD001.

Industrial Strategies Division, Air Resources Board. December 15, 2014. Detailed CA-GREET Pathway for California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) from Average Crude Refined in California. Version 3. Pathway CBOB001.

Industrial Strategies Division, Air Resources Board. December 15, 2014. Detailed CA-GREET Pathway for California Average and Marginal Electricity. Version 3. Pathway ELC002.

Industrial Strategies Division, Air Resources Board. December 15, 2014. Detailed CA-GREET Pathway for Compressed Gaseous Hydrogen from North American Natural Gas. Version 3. Pathways HYGN001, HYGN002, HYGN003, HYGN004, and HYGN005.

Table 6. Tier 2 Lookup Table for Gasoline and Diesel and Fuels that Substitute for Gasoline and Diesel.

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO_2e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effect	Total
CARBOB[1]	CBOB001	CARBOB - based on the average crude oil supplied to California refineries and average California refinery efficiencies	99.78	0	99.78
Diesel[1]	ULSD001	ULSD - based on the average crude oil supplied to California refineries and average California refinery efficiencies	102.01	0	102.01
Compressed Natural Gas	CNG005	Biomethane produced from the high-solids (greater than 15 percent total solids) anaerobic digestion of food and green wastes; compressed in CA	-22.93	0	-22.93
	CNG020	Biomethane produced from the mesophillic anaerobic digestion of wastewater sludge at a California publicly owned treatment works; on-site, high speed vehicle fueling or injection of fuel into a pipeline for off-site fueling; export to the grid of surplus cogenerated electricity.	7.75	0	7.75
	CNG021	Biomethane produced from the mesophillic anaerobic digestion of wastewater sludge at a California publicly owned treatment works; on-site, high speed vehicle fueling or injection of fuel into a pipeline for off-site fueling.	30.92	0	30.92
Electricity	ELC002	California grid electricity	105.16	0	105.16
Hydrogen	HYGN001	Compressed H_2 from central reforming of NG (includes liquefaction and re-gasification steps)	151.01	0	151.01
	HYGN002	Liquid H_2 from central reforming of NG	143.51	0	143.51
	HYGN003	Compressed H_2 from central reforming of NG (no liquefaction and re-gasification steps)	105.65	0	105.65
	HYGN004	Compressed H_2 from on-site reforming of NG	105.13	0	105.13
	HYGN005	Compressed H_2 from on-site reforming with renewable feedstocks	88.33	0	88.33

[1]The numbers appeared in this table are adjusted by EER at the LRT reporting stage for gasoline (CARBOB) or diesel (ULSD) substitute. These pathways are available to Tier 2 applicants only.

(G) The provisions set forth in this subsection 95488(c)(4)(G) apply exclusively to proposed LCFS fuel pathways that do not fall under the Tier 1 provisions found in 95488(c)(3). If no reference pathway meeting the requirements set forth in 95488(c)(1)(L) exists, or if the CI associated with the reference pathway is higher than the applicant's pathway CI by an amount that satisfies the substantiality requirements set forth in 95488(c)(4)(G)2, the applicant may use either Method 2A or Method 2B to establish a producer-specific pathway. The following sections set forth the requirements which apply to Method 2A and Method 2B applications:

1. *Scientific Defensibility Requirements*. For a proposed Method 2A or 2B pathway to be approved by the Executive Officer, the applicant must demonstrate that the life cycle analysis prepared in support of the pathway application is scientifically defensible.

   For purposes of this regulation, "scientifically defensible" means the method for calculating the fuel's carbon intensity has been demonstrated to the Executive Officer as being at least as valid and robust as the process used to generate the carbon intensity values appearing in the Tier 2 Lookup Table (Table 6, subsection 95488(c)(4)(F)). Proof that a proposed method is scientifically defensible may rely on, but is not limited to, publication of the proposed pathway in a major, well-established and peer-reviewed scientific journal (e.g., the International Journal of Life Cycle Assessment, The Journal of Cleaner Production, Biomass and Bioenergy, and Chemie International).

2. *Substantiality Requirements*. For proposed Method 2A pathways to be certified, the applicant must demonstrate, to the Executive Officer's satisfaction, that the proposed Method 2A pathways meet both of the following substantiality requirements for each of the fuel pathways for which an applicant is proposing to use Method 2A:

   a. The source-to-tank carbon intensity of the fuel under the proposed Method 2A pathway meets one of the following two criteria. "Source-to-tank" means all the steps involved in feedstock production and transport, and finished fuel production, transport, and dispensing. A source-to-tank CI does not include the carbon intensity associated with the use of the fuel in a vehicle; "source-to-tank" is also referred to as "well-to-tank."

i. For proposed Method 2A pathways with source-to-tank carbon intensities greater than 20 gCO_2e/MJ, that source-to-tank carbon intensity must be at least 5.5 percent lower than the source-to-tank carbon intensity of the reference pathway; or

ii. For proposed Method 2A pathways with source-to-tank carbon intensities of 20 gCO_2e/MJ or less, that source-to-tank carbon intensity must be at least 1 gCO_2e/MJ less than the source-to-tank carbon intensity of the reference pathway.

b. The applicant can demonstrate that all providers of the fuel covered by the applicant's proposed pathway will supply the California market with at least 10 million gasoline-gallon equivalents (1.1583×10^9 megajoules) of that fuel.

3. *Designation of Confidential Business Information.* The definition of "confidential business information," for the purposes of this section, is the same as the definition of "trade secret" found in Government Code, section 6254.7. All documents (including spreadsheets and other items not in a standard document format) that the applicant has designated as containing confidential business information (CBI) must prominently display the phrase "Contains Confidential Business Information" above the main document title and in a running header. Additionally, a separate, redacted version of such documents must also be submitted. The redacted versions must be approved by the applicant for posting to a public LCFS web site. Within redacted documents, specific redactions must be replaced with the phrase "The Applicant has Redacted Confidential Business Information." This phrase must be displayed clearly and prominently wherever CBI has been redacted. If the applicant claims that information it submits is confidential, it must also provide contact information required by California Code of Regulations, title 17, section 91011.

4. *Public Disclosure of Application Materials and Use of Application Materials in the LRT-CBTS System.*

a. All information not identified as trade secrets are subject to public disclosure pursuant to California Code of Regulations, title 17, sections 91000 through91022 and the California Public Records Act (Government Code §§ 6250 et seq.); and

b. If the application is certified by the Executive Officer, the carbon intensity values, certain associated parameters, and other fuel-pathway-related information obtained or derived from the application will be incorporated into the LRT-CBTS system for use by regulated parties using the applicant's certified fuel pathway.

5. *Submittal File Formats.* All applications and supporting documents shall be in electronic form unless the Executive Officer has approved or requested in writing another submission format. Documents such as receipts, which are available in paper form only, shall be scanned into an electronic file for submittal. The LCFS Fuel Producer Attestation Letter required under section 95488(c)(2) shall be submitted as an original copy on paper and as a scanned electronic copy.

6. *Additional Submission and File Format Requirements.* An applicant proposing Method 2A or 2B for a fuel's carbon intensity value must meet all the following requirements:

a. All relevant data, calculations, and other documentation in subsection (A) above must be uploaded through the LRT-CBTS web portal (http://www.arb.ca.gov/lcfsrt);

b. The applicant must not convert spreadsheets, including CA-GREET 2.0 spreadsheets into other file formats, or otherwise take steps to prevent the Executive Officer from examining the contents of all cells in those spreadsheets;

c. The applicant must demonstrate that the fuel that will be produced under the proposed pathway would comply with all applicable ASTM or other generally recognized national consensus standards;

d. The applicant must demonstrate that the fuel that will be produced under the proposed pathway is not exempt from the LCFS under section 95482(c).

(H) *Selection of Methods 2A and 2B*.

1. *Method 2A*: Applicants shall use Method 2A if

a. A reference pathway meeting the requirements set forth in section 95488(c)(1)(L) exists either in the Tier 2 Lookup Table (Table 6), or among the certified Method 2 pathways currently in use by the applicant, and

b. If the applicant's CI is lower than the CI of the reference pathway's CI by an amount that is equal to or greater than the substantiality threshold established in section 95488(c)(4)(G)2.

2. A Method 2A pathway CI shall be calculated using as a baseline the inputs that were used to calculate the reference pathway's CI. The Method 2A CI shall be calculated by changing one or more of the inputs used to calculate the reference pathway's CI. All changed inputs used to calculate a Method 2A CI must be clearly identified in the Method 2A application. The Executive Officer must be able to make the changes identified by the applicant to the inputs used to calculate to reference pathway's CI, and arrive at the same proposed Method 2A CI.

3. *Method 2B*: Method 2B pathways are not subject to the substantiality requirements set forth in section 95488(c)(4)(G)2. Applicants shall use Method 2B if

a. No reference pathway meeting the requirements set forth in subsection 1. above exists in the Tier 2 Lookup Table (Table 6), or among the certified Method 2 pathways currently being used by the applicant; or

b. An available pathway, as set forth in subsection 1., above, matches the applicant's production pathway, but has a lower CI than the applicant's pathway. This CI differential could be due to factors such as transport distances or electrical energy generation mixes. In this case, the applicant would be subject to

the Method 2B provisions set forth in this section, but could utilize the available Tier 2 Lookup Table or certified Method 2 pathway as a reference pathway.

(l) *Specific Method 2A and 2B Fuel Pathway Application Requirements*. Unless otherwise noted, all applicants for a certified Method 2A or 2B fuel pathway shall submit the items specified in this section.

1. *A Life Cycle Analysis Report*. A life cycle analysis report describes the full fuel life cycle, and describes in detail the calculation of the fuel pathway CI. The report shall contain sufficient detail to allow staff to replicate the CI calculated by the applicant. All inputs to, and outputs from, the fuel production process that contribute to the life cycle CI must be described in the life cycle analysis report. These inputs and outputs must then be fully accounted for in the calculation of the fuel pathway CI. The life cycle analysis report shall include the following information:

   a. A detailed description of the full fuel production process. The description shall include:

      i. A description of the full well-to-wheels fuel life cycle, including the locations where each primary step in the fuel life cycle occurs. This description shall identify where the system boundary was established for the purposes of performing the life cycle analysis on the proposed pathway. The discussion of the system boundary shall be accompanied by a schematic depicting the system boundary. That schematic shall show all feedstock and fuel production units that are included in the system boundary, as well as all material and energy flows across the system boundary. Any feedstock or fuel production units that have been excluded from the system must be shown on the schematic, and must be explicitly discussed in the narrative description of the full fuel life cycle.

      ii. A description of all fuel production feedstocks used, including all pre-processing to which feedstocks are subject. For fuels utilizing agricultural crops for feedstocks, the

description shall include the agricultural practices used to produce those crops. This discussion shall cover energy and chemical use, typical crop yields, feedstock harvesting, transport modes and distances, storage, and pre-processing (such as drying or oil extraction).

iii. A description of all material inputs to the production process not covered in ii., above. These include, but are not limited to enzymes, nutrients, chemicals, and microorganisms.

iv. A description of the transportation modes used throughout the fuel life cycle. This discussion must identify origins and destinations, cargo carrying capacities, fuel shares, and the distances traveled in each case.

v. A description of all facilities and process units involved in the production of fuel under the proposed pathway.

vi. A list of all combustion-powered equipment, along with their respective capacities, sizes, or rated power, and type and amount of fuel combusted, throughout all phases of the fuel life cycle over which the applicant exercises control.

vii. A quantitative discussion of the thermal and electrical energy consumption that occurs throughout all phases of the fuel life cycle over which the applicant exercises control. All fuels used (natural gas, biogas, coal, biomass, etc.) must be identified and use rates quantified. The regional electrical energy generation fuel mix used in the CA-GREET2.0-T2 analysis must be identified. Internally generated power such as cogeneration and combined heat and power must also be described. All applicants using grid electricity must choose electrical generation energy mixes from among the 26 subregions in the ninth edition of the U.S. EPA's Emissions and Generation Resource Integrated Database (eGRID).

CA-GREET2.0-T2 contains these eGRID subregional energy mixes.

viii. A description of all co-products, byproducts, and waste products associated with production of the fuel. That description shall extend to all processing, such as drying of distiller's grains, applied to these materials after they leave the fuel production process, including processing that occurs after ownership of the materials passes to other parties. Moreover, if a co-product credit is claimed for a co- or by-product, that credit must reflect all post-fuel-production processing steps covered by this section.

b. A detailed description of the calculation of the pathway CI. This description must provide clear, detailed, and quantitative information on process inputs and outputs, energy consumption, greenhouse gas emissions generation, and the final pathway carbon intensity, as calculated using the approved version of CA-GREET. Important intermediate values in each of the primary life cycle stages shall be shown. Those stages include but are not limited to feedstock production and transport; fuel production, transport, and dispensing; co-product production, transport and use; waste generation, treatment and disposal; and fuel use in a vehicle. This description shall include, at a minimum:

i. A table showing all CA-GREET2.0-T2 input values entered by the applicant. The worksheet, row, and column locations of the cells into which these inputs were entered shall be identified. In combination with the inputs identified in subsection b.ii. below, this table shall enable the Executive Officer to enter the reported inputs into a copy of CA-GREET2.0-T2 and to replicate the carbon intensity results reported in the application.

ii. A detailed discussion of all modifications other than those covered by subsection b.i. above, made to the CA-GREET2.0-T2 spreadsheet. This discussion shall allow the Executive

Officer to duplicate all such modifications and, in combination with the inputs identified in subsection b.i. above, replicate the carbon intensity results reported in the application.

iii. Documentation of all CA-GREET2.0-T2 values used in the carbon intensity calculation process.

iv. A detailed description of all supporting calculations that were performed outside of the CA-GREET2.0-T2 spreadsheet.

c. Descriptions of all co-located facilities, which in any way utilize outputs from, or provide inputs to the fuel production facility. Such co-located facilities include but are not limited to cogeneration facilities, facilities that otherwise provide heat or electrical energy to the fuel production process, facilities that process or utilize co-products such as distillers grains with solubles, and facilities which provide or pre-process feedstocks or thermal energy fuels. If energy is supplied to the fuel production facility by a co-located cogeneration plant and that plant also supplies energy to other facilities, those other facilities must be identified and described.

d. A list of references covering all information sources used in the preparation of the life cycle analysis. All reference citations in the life cycle analysis report shall include standard in-text parenthetical citations stating the author's last name and date of publication. Each in-text citation shall correspond to complete publication information provided in the list of references. Complete publication information shall at a minimum, identify the author(s), title of the referenced document (and of the article within that document, if applicable), publisher, publication date, and pages cited. For internet citations, the reference shall include the universal resource locator (URL) address of the citation, as well as the date the web site was last accessed.

2. Except as specified in section 95488(d)(2), the applicant shall submit receipts and invoices, as set forth in section

95488(c)(3)(A)2., covering a period of no less than two years for:

a. All forms of energy consumed in the fuel production process.
b. All fuel sales.
c. All feedstock purchases.
d. All co-product sales.

3. In lieu of receipts or invoices for energy consumption, fuel sales, feedstock purchases, or co-product sales, the applicant may seek Executive Officer approval to submit audit reports prepared by independent, third-party auditors that document energy consumption, fuel sales, feedstock purchases, or co-product sales.

4. The geographical coordinates of fuel production facility. Geographical coordinates can be reported either as the longitude and latitude or as the Universal Transverse Mercator coordinates.

5. A copy of the CA-GREET2.0-T2 spreadsheet prepared for the life cycle analysis of the proposed fuel pathway. All Method 2A and 2B pathway carbon intensities must be calculated using CA-GREET2.0-T2 unless the Executive Officer has approved the use of a method that is at least equivalent to the calculation methodology used by CA GREET2.0-T2.

6. One or more process flow diagrams that, singly or collectively, depict the complete fuel production process. Each piece of equipment or stream appearing on the process flow diagram shall include data on its energy and materials balance, along with any other critical information such as operating temperature, pH, rated capacity, etc.

7. All applicable air pollution control permits issued by the local air pollution control jurisdiction. If air pollution control permits are not required, the life cycle analysis report shall fully explain why this requirement does not exist.

8. A copy of the federal Renewable Fuel Standard 2 (RFS2) Third Party Engineering Review Report required pursuant to 40 CFR part 80.1450, if available. If the RFS2 engineering report is not available, the Life Cycle Analysis Report shall explain why it is not available.

9. Copies of the federal Renewable Fuel Standard 2 (RFS2) Fuel Producer Co-products Report as required pursuant to 40 CFR 80.1451(b)(1)(ii)(M)-(N). The period covered by the Co-products Report submittal to the Executive Officer shall coincide with the period covered by the energy receipts submitted under subsection 2. above.

10. A signed LCFS Fuel Producer Attestation Letter, as set forth in section 95488(c)(2).

(5) *Certification Process*

(A) *Applicability*. Except where other applicability provisions are set forth, the provisions in section 95488(c)(5) shall apply to all Tier 1 and all Tier 2 Method 2A and Method 2B fuel pathway applications. These provisions shall not apply to Tier 2 Lookup Table applications.

(B) After receipt of an application designated by the applicant as ready for formal evaluation, the Executive Officer shall advise the applicant in writing either that the application is complete or incomplete. If it is deemed to be incomplete, the Executive Officer shall identify which of the requirements enumerated in this section have not been met. Applicants advised that their applications are incomplete may submit additional information in response to the Executive Officer's findings, and request a new completeness evaluation. If the Executive Officer again deems the application to be incomplete, the applicant may again submit additional information, and again request a new completeness determination. This process may repeat until the application is deemed to be complete, or 180 calendar days have elapsed from the date on which the Executive Office received the initial application, whichever occurs first. If the applicant is unable to achieve a complete application within this 180 calendar-day period, the application shall be denied and the applicant shall be informed in writing of that denial.

(C) Once an application is deemed to be complete, the Executive Officer will evaluate that application to determine whether it has met all requirements necessary for certification.

(D) At any point, and from time to time, during the formal evaluation process, the Executive Officer may request in writing additional information or clarification from the applicant.

(E) If the Executive Officer is unable to reach a certification determination, as provided in this subsection, the application will be denied without prejudice. Applications denied without prejudice may be revised and resubmitted for a new certification evaluation.

(F) The Executive Officer will evaluate all applications against the following criteria:

1. The Executive Officer will first attempt to replicate the applicant's carbon intensity calculations. Replication will proceed as follows:

   i. Starting with a copy of CA-GREET2.0-T2 that had not previously been used for calculations associated with the proposed pathway, the Executive Officer will enter all the inputs reported by the applicant.
   ii. The Executive Officer will then apply all CA-GREET2.0-T2 modifications reported by the applicant.
   iii. If the Executive Officer is able to duplicate the applicant's CA-GREET2.0-T2 results, the Executive Officer will proceed to subsection (F)2. below. If the Executive Officer is not able to duplicate the applicant's CA-GREET2.0-T2 results, the application shall be denied.

2. Using the energy purchase and fuel production data obtained from the receipts and invoices submitted by the applicant, the Executive Officer will verify the energy consumption inputs to the CA-GREET2.0-T2 carbon intensity calculations that were submitted by the applicant. If the Executive Officer is unable to verify the applicant's CA-GREET2.0-T2 energy consumption inputs by calculating them from energy receipt data and fuel production volumes, the application shall be denied.

3. The Executive Officer will evaluate the validity of all inputs not directly related to energy consumption used to calculate the applicant's CI. If any of those inputs are found to be invalid, the application shall be denied.

(G) Once the Executive Officer has deemed that a Tier 1 application or an application to replace any pathway subject to deactivation under section 95488(a) has met all requirements for certification, the pathway will be certified and posted to the LCFS fuel pathway certification web page.

(H) For a new Tier 2 Method 2A or 2B pathway application, once the Executive Officer has deemed that the application has met all requirements necessary for certification, it will be posted to the LCFS fuel pathway comments web site for public comment. Comments will be accepted for 10 business days following the date on which the application was posted. Only comments related to potential factual or methodological errors will require responses from the applicant. The Executive Officer will forward to the applicant all comments identifying potential factual or methodological errors. In response, the applicant shall either:

1. Make revisions to its application that respond to the comments received and submit those revisions to the Executive Officer. The revised application packet must include a detailed discussion of the revisions made. The discussion must clearly delineate how each comment is related to a responsive revision. The revisions submitted must be approved by the Executive Officer before the application can be certified.

2. Submit a detailed written response to the Executive Officer explaining why no revisions are necessary. The response submitted by the applicant must be approved by the Executive Officer before the application can be certified.

3. As specified in subsection 1., revise portions of the application in response to a subset of the comments received, and, as specified in subsection 2., submit a written response explaining why the remaining comments do not warrant revisions.

4. Withdraw the application.

(I) The Executive Officer will evaluate the applicant's responses to the comments received, and determine whether they have adequately addressed the potential factual or methodological errors identified in those comments. If the applicant's responses are deemed to have adequately addressed the comments received, those responses will be posted to the LCFS fuel pathway comments web site, and the pathway (as revised, if revisions were necessary) will be certified and posted to the LCFS fuel pathway certification web page. If the applicant's responses are deemed to have inadequately addressed the potential factual or methodological errors identified in the comments received, or if the applicant fails to

submit responses to those comments, the application will be denied.

(J) If no public comments are received, the application will be certified and moved to the LCFS fuel pathway certification web page.

(K) Fuel pathways that are certified and posted to the LCFS Fuel Pathway Certification web page will be accompanied by a certification statement, prepared by the Executive Officer, setting forth all limitations and operational conditions to which the new pathway will be subject.

(L) If the Executive Officer at any time determines that a certified fuel pathway does not meet the operational conditions specified in the certification statement issued by the Executive Officer as specified in subsection (K), above, the Executive Officer shall revoke or modify the certification as is necessary to assure that no fuel that does not meet all applicable operational conditions, including the specified fuel life cycle carbon intensity, is produced for sale in California under that pathway. The Executive Officer shall not revoke or modify a prior certification order without first affording the applicant an opportunity for a hearing in accordance with CCR, title 17, sections 60055.1 through 60055.43.

(6) *Relationship of Pathway Carbon Intensities to Units of Fuel Sold in California.*

(A) LCFS CIs represent the life cycle greenhouse gas emissions, expressed in a per-megajoule of finished-fuel-energy basis, associated with long-term, steady-state fuel production operations. Actual CIs vary over time due to a variety of factors, including but not limited to seasonality, feedstock properties, plant maintenance, and unplanned interruptions and shutdowns. A fuel production operation will not be found to be in violation of its operating conditions unless a CI calculated from production data covering a full year of operations is higher than the certified CI reported for that fuel in the LRT-CBTS system. Fuel producers labeling fuel sold in California with LCFS CIs (in product transfer or similar documents), and regulated parties reporting those CIs in the LRT-CBTS system, must ensure, therefore, that the fuel so labeled and so reported will be found to have a life cycle CI, as calculated from production data covering a year of operations, that is equal to or less than the CIs reported in the LRT-CBTS system and on product transfer documents. Regulated parties shall not report fuel sales under any LCFS CI unless they have determined that the actual CI of that fuel, calculated as described in this section, is equal to or less than the

LCFS CI under which sales of that fuel are reported in the LRT-CBTS system.

(B) Sellers of fuels covered by this regulation order must associate a CI with each unit of fuel sold in California. In general, all units of fuel produced while a given set of production parameters is in effect shall be assigned the same CI, regardless of whether those units will be sold in California. Under the following two sets of conditions, portions of the fuel produced while a given set of production parameters is in effect may be assigned different CIs. Those conditions are:

1. Two or more feedstocks are being simultaneously fed into the production process. A renewable diesel production facility may, for example, be feeding a mixture of soy oil, tallow, and used cooking oil into its production process.

2. Two or more co-products are being produced simultaneously. A corn ethanol plant may, for example, be drying only a portion of the distiller's grains it produces. A portion of the distiller's grains produced is sold dry, and the remainder is sold wet.

(C) When two or more feedstocks are being simultaneously fed into the production process, the producer shall associate a portion of the fuel produced with each feedstock, using the producer's average feedstock-specific mass-based fuel yield values. Each feedstock-specific subdivision of the total fuel produced shall be labeled with the certified CI associated with that feedstock.

(D) When two or more co-products are being simultaneously produced, the producer may label the fuel associated with those co-products one of two ways:

1. If the production facility has available to it a single CI reflective of the current set of operational conditions (including the production of two or more co-products, in the proportions currently being produced), the facility may label its entire production run of fuel with that CI.

2. If the production facility has available to it separate CIs associated with the production of each co-product, it may label portions of the fuel produced with the certified CIs associated with each co-product. The proportion of the total fuel produced that is labeled with each co-product-specific CI shall reflect the proportions of the total co-product stream

that each co-product comprises. Co-product proportions shall be calculated on a mass-based, dry-matter basis.

(E) Unless either or both of the two conditions specified in subsection (B), above are in effect, all units of fuel produced while a given set of production parameters is in effect shall be assigned the same certified CI, regardless of whether those units will be sold in California. A different certified CI may be assigned only when one or more production parameters changes. Following that change, all units produced while the new set of production parameters is in effect shall be assigned the new CI, regardless of whether those units will be sold in California.

(F) Except when either or both of the two conditions specified in specified in subsection (B), above are in effect, a producer shall at no time label those units of fuel destined for the California market with a CI that is different from the CI of the units not destined for the California market. A producer that uses both biogas and natural gas as process fuel, for example, shall not label the units destined for the California market with a CI associated only with the use of biogas. All units produced, regardless of where they are sold, shall have associated with them a single CI that reflects the mix of process fuels that was used to produce those units. The portion of the units sold in California shall be labeled with that single CI.

(7) *Recordkeeping.*

(A) Each fuel provider that has been certified to use a fuel pathway pursuant to subsection (c) must maintain records identifying each facility at which it produces a transportation fuel for sale in California under the certified fuel pathway. For each such facility, the entity must retain records showing:

1. The volume of fuel produced and subsequently sold in California under the certified fuel pathway. Sales invoices, contracts, and bills of lading for those fuel sales shall be retained.

2. The amounts of feedstocks purchased to produce the fuel specified in subsection 1. above. Invoices from the sellers and purchase contracts shall be retained.

3. The quantity of all forms of energy consumed to produce the fuel covered in subsection 1. above. All invoices for the purchase of process fuel, and all receipts for the sale of the applicant's finished fuel shall be maintained.

4. The quantities of all products co-produced with the fuel covered by certified LCFS pathway. Copies of invoices, contracts, and bills of lading covering those sales shall be retained. In addition, copies of the federal Renewable Fuel Standard 2 Fuel Producer Co-products Report described in section 95488(c)(4)(I)9. shall be retained. If the amount of co-product produced exceeds the amount sold by five percent or more, full documentation of the fate of the unsold fractions shall be maintained.

(B) These records shall be submitted to the Executive Officer within 20 calendar days from the date that a written request is received from the Executive Officer or his/her designee.

(d) *Special Circumstances*

(1) *Temporary FPCs for Fuels with Indeterminate CIs*. The requirements set forth in this section apply to all fuels with indeterminate CIs that are reported in the LRT-CBTS.

(A) A regulated party who has purchased a fuel, but is unable to determine the carbon intensity of that fuel, must petition the Executive Officer to use a temporary Fuel Pathway Code and carbon intensity value for reporting purposes. The term "unable to determine or indeterminate" is defined, for purposes of this provision, as follows:

1. The production facility cannot be identified at that time, or

2. The production facility is known but there is no approved fuel pathway application.

(B) Pursuant to subsection (A) above, the Executive Officer may grant regulated parties permission to use the following carbon intensities for gasoline- and diesel-substitute fuels respectively:

Table 7. Temporary FPCs for Fuels with Indeterminate CIs

Fuel	Feedstock	Process Energy	FPC	CI (gCO_2e/MJ)
Ethanol	Corn	Grid electricity, natural gas, and/or renewables	ETH100T	75.97
	Sorghum	Grid electricity, natural gas, and/or renewables	ETH101T	83.49

Fuel	Feedstock	Process Energy	FPC	CI (gCO_2e/MJ)
	Sugar Cane and molasses	Bagasse and straw only; no grid electricity	ETH102T	56.66
	Any starch or sugar feedstock	Any another	ETH103T	98.47
	Corn Stover	As specified in CA-GREET 2.0	ETH104T	41.05
Biodiesel	Any feedstock derived from animal fats	Grid electricity, natural gas, and/or renewables	BIOD200T	37.54
	Any feedstock derived from plant oils	Grid electricity, natural gas, and/or renewables	BIOD201T	56.95
	Any feedstock	Any other	BIOD202T	102.01
Renewable Diesel (UOP process)	Any feedstock derived from animal fats	Grid electricity, natural gas, and/or renewables	RNWD300T	32.26
	Any feedstock derived from plant oils	Grid electricity, natural gas, and/or renewables	RNWD301T	53.21
	Any feedstock	Any other	RNWD302T	102.01
Fossil CNG	Petroleum Natural Gas	N/A	CNG400T	78.37
Fossil LNG	Petroleum Natural Gas	N/A	LNG401T	94.42
Fossil L-CNG	Petroleum Natural Gas	N/A	LCNG402T	97.33
Biomethane CNG	Landfill or digester gas	Grid electricity, natural gas, and/or parasitic load	CNG500T	46.42
Biomethane LNG	Landfill or digester gas	Grid electricity, natural gas, and/or parasitic load	LNG501T	64.63
Biomethane L-CNG	Landfill or digester gas	Grid electricity, natural gas, and/or parasitic load	LCNG502T	67.18
Electricity	Natural gas, dams, wind, etc.	CA mix average	EL600T	110.42
Hydrogen	Centralized reforming of fossil L-CNG	Any	HYDN700T	191.25
	Centralized reforming of fossil LNG		HYDN701T	176.58

Fuel	Feedstock	Process Energy	FPC	CI (gCO_2e/MJ)
	Centralized reforming of fossil CNG		HYDN702T	113.38
	On-site reforming of CNG		HYDN703T	112.48
	On-site reforming of CNG made with renewable feedstocks		HYDN704T	98.05
Any gasoline substitute feedstock-fuel combination not included above	Any	Any	SG800T	98.47
Any diesel substitute feedstock-fuel combination not included above	Any	Any	SD801T	102.01

(C) Based on timely reports using temporary FPCs, the regulated party may generate credits.

(D) A temporary FPC approved for use by the Executive Officer will be permitted for LRT-CBTS reporting purposes for up to two quarters. Reporting will be granted only for the quarter during which a temporary FPC is approved for use and the subsequent full quarter.

(E) A request to use a temporary FPC must be submitted online using the Temporary FPC Request Form in the LRT-CBTS.

(2) *Provisional Pathways.* As set forth in sections 95488(c)(3) and (c)(4)(I)2., LCFS fuel pathways are generally developed for fuels that have been in full commercial production for at least two years. In order to encourage the development of innovative fuel technologies, however, applicants may submit New Pathway Request Forms, as set forth in section 95488(c)(1), covering Tier 1 and Tier 2 facilities that have been in full commercial operation for less than two years, provided they have been in full commercial production for at least one full calendar quarter. If that form is subsequently approved by the Executive Officer, as set forth in section 95488(c)(2), the applicant shall submit operating records covering all prior periods of full commercial operation, provided those records cover at least one full calendar quarter. The following subsections govern the development, evaluation, and post-certification monitoring of such provisional pathways.

§ 95489. Provisions for Petroleum-Based Fuels.

Table 8. Carbon Intensity Lookup Table for Crude Oil Production and Transport.

Country of Origin	Crude Identifier	Carbon Intensity (gCO_2e/MJ)
Baseline Crude Average*	California Baseline Crude Average applicable to crudes supplied during 2015 and subsequent years	11.98
	California Baseline Crude Average applicable to crudes supplied in 2013 and 2014	11.39
Annual Crude Average	Volume-weighted California average CI for crudes supplied during 2013	11.37
Algeria	Saharan	11.69
Angola	Cabinda	10.03
	Clov	8.25
	Dalia	9.78
	Gimboa	9.65
	Girassol	10.33
	Greater Plutonio	9.78
	Hungo	9.10
	Kissanje	9.65
	Mondo	9.80
	Nemba	10.19
	Pazflor	8.91
Argentina	Canadon Seco	9.28
	Escalante	9.30
	Hydra	8.08
	Medanito	9.98
Australia	Enfield	5.09
	Pyrenees	5.99
	Stybarrow	6.31
	Van Gogh	6.14
	Vincent	5.05
Azerbaijan	Azeri	8.25
Brazil	Albacora Leste	6.55
	Bijupira-Salema	8.08
	Frade	6.12
	Jubarte	8.37
	Lula	9.94
	Marlim	7.76
	Marlim Sul	8.49
	Ostra	6.54
	Polvo	6.39
	Roncador	7.44
	Roncador Heavy	7.09
	Sapinhoa	8.53

section 95489(f). The credit calculation for investments that reduce greenhouse gas emissions at renewable hydrogen refineries is specified in section 95489(g).

(b) *Deficit Calculation for CARBOB or Diesel Fuel.* A regulated party for CARBOB or diesel fuel must calculate separately the base deficit and incremental deficit for each fuel or blendstock derived from petroleum feedstock as specified in this provision.

Base Deficit Calculation

$$Deficits_{Base}^{XD}(MT) = (CI_{Standard}^{XD} - CI_{BaselineAve}^{XD}) \times E^{XD} \times C$$

Incremental Deficit Calculation to Mitigate Increases in the Carbon-Intensity of Crude Oil

If $CI_{20XXCrudeAve} > CI_{BaselineCrudeAve} + 0.10$ *then:*

$$Deficits_{Incremental20XX}^{XD} = (CI_{BaselineCrudeAve} - CI_{20XXCrudeAve}) \times E^{XD} \times C$$

If $CI_{20XXCrudeAve} \leq CI_{BaselineCrudeAve} + 0.10$ *then:*

$$Deficits_{Incremental20XX}^{XD} = 0$$

where,

$Deficits_{Base}^{XD}(MT)$ and $Deficits_{Incremental20XX}^{XD}$ mean the amount of LCFS deficits incurred (a negative value), in metric tons, by the volume of CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") that is derived from petroleum feedstock and is either produced in or imported into California during a specific calendar year;

$CI_{Standard}^{XD}$ has the same meaning as specified in section 95486(b)(3)(A);

$CI_{BaselineAve}^{XD}$ is the average carbon-intensity value of CARBOB or diesel, in gCO_2e/MJ, that is derived from petroleum feedstock and is either produced in or imported into California during the baseline calendar year, 2010. For purposes of this provision, $CI_{BaselineAve}^{XD}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") are the Baseline Average carbon intensity values for CARBOB and diesel (ULSD) set forth in Table 6. The Baseline Average carbon intensity values for CARBOB and diesel (ULSD) are calculated using data for crude oil supplied to California refineries during the baseline calendar year, 2010.

$CI_{BaselineCrudeAve}$ is the California Baseline Crude Average carbon intensity value, in gCO_2e/MJ, attributed to the production and transport of the crude oil supplied

as petroleum feedstock to California refineries during the baseline calendar year, 2010. For comparison to $CI_{2015CrudeAve}$,the baseline is:

$$CI_{BaselineCrudeAve} = \frac{[11.39 \times V_{2013} + 11.39 \times V_{2014} + 11.98 \times V_{2015}]}{[V_{2013} + V_{2014} + V_{2015}]}$$

For comparison to $CI_{2016CrudeAve}$, the baseline is:

$$CI_{BaselineCrudeAve} = \frac{[11.39 \times V_{2014} + 11.98 \times V_{2015} + 11.98 \times V_{2016}]}{[V_{2014} + V_{2015} + V_{2016}]}$$

For comparison to $CI_{2017CrudeAve}$and subsequent years, the baseline is

$$CI_{BaselineCrudeAve} = 11.98$$

$CI_{20XXCrudeAve}$ is the Three-year California Crude Average carbon intensity value, in gCO_2e/MJ, attributed to the production and transport of the crude oil supplied as petroleum feedstock to California refineries during the most recent three calendar years. For example, the Three-year California Crude Average carbon intensity value for 2015 is:

$$CI_{2015CrudeAve} = \frac{[CI_{2013} \times V_{2013} + CI_{2014} \times V_{2014} + CI_{2015} \times V_{2015}]}{[V_{2013} + V_{2014} + V_{2015}]}$$

V_{20XX} is the total volume of crude supplied to California refineries during the specified year 20XX.

CI_{20XX} is the Annual Crude Average carbon intensity value, calculated annually as described in section 95489(c). The Annual Crude Average carbon intensity value for 2013 is specified in Table 8.

E^{XD} is the amount of fuel energy, in MJ, from CARBOB (XD = "CARBOB") or diesel (XD = "diesel"), determined from the energy density conversion factors in Table 3, either produced in California or imported into California during a specific calendar year and sold, supplied, or offered for sale in California.

$$C = 1.0 \times 10^{-6} \frac{MT}{gCO_2e}$$

(c) *Addition of Incremental Deficits that Result from Increases in the Carbon Intensity of Crude Oil to a Regulated Party's Compliance Obligation.*

(1) Incremental deficits for CARBOB or diesel fuel that result from increases in the carbon intensity of crude oil will be calculated and added to each affected regulated party's compliance obligation for the compliance period

in which the $Deficits^{XD}_{Incremental20XX}$ become effective, which will be the year following the year in which the $CI_{20XXCrudeAve}$ was established.

(2) Incremental deficits for CARBOB or diesel fuel for each regulated party will be based upon the amount of CARBOB and diesel fuel supplied by the regulated party in each compliance period for which the $Deficits^{XD}_{Incremental20XX}$ are effective.

(3) *Process for Calculating the Annual Crude Average Carbon Intensity Value*.

(A) An Annual Crude Average carbon intensity value will be calculated for each calendar year using a volume-weighted average of crude carbon intensity values. The volume for each imported crude will be the total volume of that crude reported by all regulated parties in the Annual Compliance Reports for the calendar year. Volume contributions for California State fields will be based on oil production data from the California Department of Conservation and volume contributions for California Federal Offshore fields will be based on oil production data from the Bureau of Safety and Environmental Enforcement. Field production volumes for California-produced crude will be reduced, if necessary, to account for crude exports. Crude carbon intensity values are those listed in Table 8. For crude names not listed, the default carbon intensity value from Table 8 will be used until the crude name and carbon intensity value is added to Table 8 as described in section 95489(c)(3).

(B) Within 15 days of receiving the Annual Compliance reports, the Executive Officer shall post the Annual Crude Average carbon intensity calculation at the LCFS web site (http://www.arb.ca.gov/fuels/lcfs/lcfs.htm) for public comment. Written comments shall be accepted for 15 days following the date on which the analysis was posted. Only comments related to potential factual or methodological errors in the posted Annual Crude Average carbon intensity value may be considered. The Executive Officer shall evaluate the comments received and, if the Executive Officer deems it necessary, may request in writing additional information or clarification from the commenters. Commenters shall be provided 10 days to respond to these requests. The Executive Officer shall post the final Annual Crude Average carbon intensity value at the LCFS web site within 15 days of completion of the comment period, if no comments are received. If comments are received, the Executive Officer shall post the final Annual Crude Average carbon intensity value within 30 days of completion of the comment period or within 25 days of the latest

request by the Executive Officer for additional information or clarification from a commenter, whichever is later.

(C) Revisions to the OPGEE model, addition of crudes to Table 8, and updates to all carbon intensity values listed in Table 8 will be considered on a three-year cycle through proposed amendments of the Low Carbon Fuel Standard regulation.

(d) *Credits for Producing Crudes using Innovative Methods.* A crude oil producer or refinery receiving the crude may generate credits for crude oil that has been produced using innovative methods and delivered to California refineries for processing.

(1) *General Requirements.*

(A) For the purpose of this section, an innovative method means crude production using one or more of the following technologies:

1. Solar steam generation (generated steam of 55 percent quality or greater). Steam must be used onsite at the crude oil production facilities.
2. Carbon capture and storage (CCS). Carbon capture must take place onsite at the crude oil production facilities.
3. Solar or wind electricity generation. To qualify for the credit, electricity must be produced and consumed onsite or be provided directly to the crude oil production facilities from a third-party generator and not through a utility owned transmission or distribution network.
4. Solar heat generation. Heat must be used onsite at the crude oil production facilities.

(B) The innovative method must become operational no earlier than 2010 for solar steam and CCS projects or January 1, 2015, for any other innovative method above. Any project must be approved for use by the Executive Officer before the crude oil producer or purchasing refinery can generate credit under the LCFS regulation. CCS projects must use a Board-approved quantification methodology including monitoring, reporting, verification, and permanence requirements associated with the carbon storage method being proposed for the innovative method.

No credits may be generated for any quarter preceding the quarter in which the application is approved, except that electricity and heat generation projects may generate credits retroactive to quarter three or quarter four of 2015 if the project meets all of the following:

CALIFORNIA'S 2012 AMENDED LOW CARBON FUEL STANDARD

FINAL REGULATION ORDER

Note: The original regulatory text is shown in plain type. The amendments are shown in underline and ~~strikethrough~~ to indicate additions and deletions, respectively. All other portions of the LCFS regulation remain unchanged and are indicated by the symbol "* * * * *" for reference.

Amend sections 95480.1, 95481, 95484, 95485, 95486, 95488, and 95490, title 17, California Code of Regulations (CCR), to read as follows:

Adopt new sections 95480.2, 95480.3, 95480.4, and 95480.5, title 17, CCR, to read as follows:

Subchapter 10. Climate Change
Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 7. Low Carbon Fuel Standard

§ 95480.1. Applicability.

(a) *Applicability of the Low Carbon Fuel Standard.*

Except as provided in this section, the California Low Carbon Fuel Standard regulation, title 17, California Code of Regulations (CCR), sections 95480 through 95490 (collectively referred to as the "LCFS") applies to any transportation fuel, as defined in section 95481, that is sold, supplied, or offered for sale in California, and to any person who, as a regulated party defined in section 95481 and specified in section 95484(a), is responsible for a transportation fuel in a calendar year. The types of transportation fuels to which the LCFS applies include:

(1) California reformulated gasoline ("gasoline" or "CaRFG");
(2) California diesel fuel ("diesel fuel" or "ULSD");
(3) Fossil compressed natural gas ("Fossil CNG") or fossil liquefied natural gas ("Fossil LNG");
(4) Biogas CNG or biogas LNG;
(5) Electricity;
(6) Compressed or liquefied hydrogen ("hydrogen");
(7) A fuel blend containing hydrogen ("hydrogen blend");
(8) A fuel blend containing greater than 10 percent ethanol by volume;
(9) A fuel blend containing biomass-based diesel;
(10) Denatured fuel ethanol ("E100");
(11) Neat biomass-based diesel ("B100"); and
(12) Any other liquid or non-liquid fuel.

(A) retain LCFS credits without expiration for use within the LCFS market;

(B) acquire or transfer LCFS credits. A third-party entity, which is not a regulated party or acting on behalf of a regulated party, may not purchase, sell, or trade LCFS credits, except as otherwise specified in (C) below; and

(C) export credits for compliance with other greenhouse gas reduction initiatives including, but not limited to, programs established pursuant to AB 32 (Nunez, Stats. 2006, ch. 488), subject to the authorities and requirements of those programs.

(2) A regulated party may not:

(A) use credits in the LCFS program that are generated outside the LCFS program, including, but not limited to, credits generated in other AB 32 programs.

(B) borrow or use credits from anticipated future carbon intensity reductions.

(C) generate LCFS credits from fuels exempted from the LCFS under section 95480.1(d) or are otherwise not one of the transportation fuels specified in section 95480.1(a).

(d) *Nature of Credits.* LCFS credits shall not constitute instruments, securities, or any other form of property.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510 and 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975). Reference: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3d 411, 121 Cal.Rptr. 249 (1975).

§ 95486. Determination of Carbon Intensity Values.

(a) *Selection of Method.*

(1) A regulated party for CARBOB, gasoline, or diesel fuel must use Method 1, as set forth in section 95486(b)(2)(A), to determine the carbon intensity of each fuel or blendstock for which it is responsible ("regulated party's fuel").

(b) *Method 1 – ARB Lookup Table.*

(1) To generate carbon intensity values, the Executive Officer ~~*ARB*~~ uses the California-modified GREET (CA-GREET) model ~~(~~version 1.8b~~,~~ (February 2009, updated December 2009), which is incorporated herein by reference, and a land-use change (LUC) modifier (when applicable). The CA-GREET model is available for downloading on ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. CA-GREET, or other model determined by the Executive Officer to be at least equivalent to the CAGREET, version 1.8b., shall be used by the Executive Officer to generate carbon intensity values.

To generate carbon intensity values for crude oil production and transport to California refineries, the Executive Officer uses the Oil Production Greenhouse Gas Emissions Estimator (OPGEE) model version 1.0 (September 2012), which is incorporated herein by reference. The OPGEE model is available for downloading on ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm. OPGEE, or other model determined by the Executive Officer to be at least equivalent to the OPGEE, version 1.0., shall be used by the Executive Officer to generate carbon intensity values for crude oil production and transport to California refineries.

The Carbon-Intensity Lookup Tables, shown below, specify the carbon intensity values for the enumerated fuel pathways that are described in the following supporting documents, all of which are incorporated herein by reference:

(A) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) from Average Crude Refined in California," Pathway CBOB001;

(A.1) Supplement Version 2.0 (September 12, 2012) to Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed CaliforniaModified GREET Pathway for California Reformulated Gasoline Blendstock for Oxygenate Blending (CARBOB) from Average Crude Refined in California;"

(B) Stationary Source Division, Air Resources Board (February 27, 2009, v.2.1), "Detailed California-Modified GREET Pathway for California Reformulated Gasoline (CaRFG)" ~~Pathways ETHC001, ETHC002, ETHC003, ETHC004, ETHC005, ETHC006, ETHC007, ETHC008, ETHC009, ETHC010, ETHC0011, ETHC0012, ETHC0013~~;

Trinidad and Tobago	Calypso	6.95
United States	Alaska North Slope	12.81
	California Average Production	12.90
Venezuela	Boscan	12.53
	Petrozuata	23.58
	Zuata Sweet	23.50

* Based on production and transport of the crude oil supplied to California refineries during the baseline calendar year, 2010
**Based on production and transport of the crude oil supplied to California refineries during a specified calendar year or years. The Annual Crude Average CI value will be first calculated for calendar year 2012 and subsequently updated annually using data for crude oil supplied to California refineries during the specified calendar year or years.

(2) ~~*Use of*~~ *Lookup-Table Carbon-Intensity Values.*

(A) *For CARBOB and Diesel Fuel.*

Deficit calculations to be used for a regulated party's CARBOB or diesel fuel are specified in section 95486(b)(2)(A)1. Requirements for adding incremental emission increases associated with an increase in the carbon intensity of crude oil to a regulated party's compliance obligation are specified in section 95486(b)(2)(A)2. The credit calculation for CARBOB or diesel derived from petroleum feedstock which is produced using innovative methods such as carbon capture and sequestration (CCS) is specified in section 95486(b)(2)(A)4.

1. *Deficit Calculation for CARBOB or Diesel Fuel.*

A regulated party for CARBOB or diesel fuel must calculate separately the base deficit and incremental deficit for each fuel or blendstock derived from petroleum feedstock as specified in this provision.

Base Deficit Calculation

$$Deficits^{XD}_{Base}\ (MT) = (CI^{XD}_{Standard} - CI^{XD}_{BaselineAvg}) \times E^{XD} \times C$$

Incremental Deficit Calculation to Mitigate Increases in the Carbon-Intensity of Crude Oil

$$If\ CI^{XD}_{20XXCrudeAvg} > CI^{XD}_{BaselineCrudeAvg}\ then:$$

$$Deficits^{XD}_{Incremental\ 20XX} =$$

$$(CI^{XD}_{BaselineCrudeAvg} - CI^{XD}_{20XXCrudeAvg}) \times E^{XD} \times C$$

If $CI^{XD}_{20XXCrudeAvg} \leq CI^{XD}_{BaselineCrudeAvg}$ *then:*

$$Deficits^{XD}_{Incremental\ 20XX} = 0$$

where,

$Deficits^{XD}_{Base}$ *(MT) and* $Deficits^{XD}_{Incremental20XX}$ mean the amount of LCFS deficits incurred (a negative value), in metric tons, by the volume of CARBOB and diesel that is derived from petroleum feedstock and is either produced in or imported into California during a specific calendar year;

$CI^{XD}_{Standard}$ has the same meaning as specified in section 95485(a)(3)(A);

$CI^{XD}_{BaselineAvg}$ is the average carbon-intensity value of CARBOB or diesel, in gCO2E/MJ, that is derived from petroleum feedstock and is either produced in or imported into California during the baseline calendar year, 2010. For purposes of this provision, $CI^{XD}_{BaselineAvg}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") are the Baseline Average carbon intensity values for CARBOB and diesel (ULSD) set forth in the Carbon Intensity Lookup Table. The Baseline Average carbon intensity values for CARBOB and diesel (ULSD) are calculated using data for crude oil supplied to California refineries during the baseline calendar year, 2010.

$CI^{XD}_{BaselineCrudeAvg}$ is the California average crude oil carbon-intensity value, in gCO2E/MJ, attributed to the production and transport of the crude oil supplied as petroleum feedstock to California refineries during the baseline calendar year, 2010. For purposes of this provision, $CI^{XD}_{BaselineCrudeAvg}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") is the Baseline Crude Average carbon intensity value set forth in the Lookup Table. The Baseline Crude Average carbon intensity value is calculated using data for crude oil supplied to California refineries during the baseline calendar year, 2010.

$CI^{XD}_{20XXCrudeAvg}$ is the California average crude oil carbon-intensity value, in gCO2E/MJ, attributed to the production and transport of the crude oil supplied as petroleum feedstock to California refineries during specified calendar years. For purposes of this

provision, $CI^{XD}_{20XXCrudeAvg}$ for CARBOB (XD = "CARBOB") and diesel fuel (XD = "diesel") is the Annual Crude Average carbon intensity value set forth in the Lookup Table. $CI^{XD}_{20XXCrudeAvg}$ will be updated annually. $CI^{XD}_{2012CrudeAvg}$ will be calculated using data for crude oil supplied to California refineries during the calendar year 2012. $CI^{XD}_{2013CrudeAvg}$ will be calculated using data for crude oil supplied to California refineries during the calendar years 2012 and 2013. $CI^{XD}_{2014CrudeAvg}$ will be calculated using data for crude oil supplied to California refineries during the calendar years 2012, 2013, and 2014. All subsequent updates to $CI^{XD}_{20XXCrudeAvg}$ will be calculated using data for crude oil supplied to California refineries during the most recent three calendar years.

E^{XD} is the amount of fuel energy, in MJ, from CARBOB (XD = "CARBOB") or diesel (XD = "diesel"), determined from the energy density conversion factors in Table 4, either produced in California or imported into California during a specific calendar year.

C has the same meaning as specified in section 95485(a)(3)(A).

2. *Addition of Incremental Deficits that Result from Increases in the Carbon-Intensity of Crude Oil to a Regulated Party's Compliance Obligation.*

   a. Incremental deficits for CARBOB or diesel fuel that result from increases in the carbon-intensity of crude oil will be calculated and added to each affected regulated party's compliance obligation for the compliance period in which the $Deficits^{XD}_{Incremental20XX}$ become effective, which will be the year following the year in which the $CI^{XD}_{20XXCrudeAvg}$ was established and added to the Lookup Table.

   b. Incremental deficits for CARBOB or diesel fuel for each regulated party will be based upon the amount of CARBOB and Diesel fuel supplied by the regulated party in each compliance period for which the $Deficits^{XD}_{Incremental20XX}$ are effective.

3. Process for Calculating the Annual Crude Average Carbon Intensity Value.

a. The Annual Crude Average carbon intensity value will be calculated using a volume-weighted average of individual crude carbon intensity values. Volumes for individual crudes will be the total volumes reported by all regulated parties in the Annual Compliance Reports for the calendar year. Individual crude carbon intensity values are those listed in Table 8.

b. Within 15 days of receiving the Annual Compliance reports, the Executive Officer shall post the Annual Crude Average carbon intensity calculation at the ARB-LCFS website (http://www.arb.ca.gov/fuels/lcfs/lcfs.htm) for public comment. Written comments shall be accepted for 15 calendar days following the date on which the analysis was posted. Only comments related to potential factual or methodological errors in the posted Annual Crude Average carbon intensity value may be considered. The Executive Officer shall evaluate the comments received and, if the Executive Officer deems it necessary, may request in writing additional information or clarification from the commenters. Commenters shall have 10 days to respond to these requests. The Executive Officer shall post the final Annual Crude Average carbon intensity value at the ARB-LCFS website within 15 days of completion of the comment period, if no comments are received. If comments are received, the Executive Officer shall post the final Annual Crude Average carbon intensity value within 15 days of receiving any additional information or clarification requested from the commenters by the Executive Officer.

4. Credit for Purchasing Crudes Produced using Innovative Crude Production Methods.

A regulated party may receive credit for fuel or blendstock derived from petroleum feedstock which has been produced using innovative methods. For the purpose of this section, an innovative method means crude production using carbon capture and sequestration or solar steam generation that was implemented by the crude producer during or after the year 2010 and results in a reduction in carbon intensity for crude oil recovery (well to refinery entrance gate) of 1.00 gCO2E/MJ or greater. The crude oil producer must submit to ARB carbon intensity values for petroleum feedstock recovered both with and without implementation of the innovative method. Credits for CARBOB, gasoline, or diesel derived from this petroleum feedstock must be calculated as specified below:

CALIFORNIA'S ORIGINAL LOW CARBON FUEL STANDARD

Final Regulation Order

Adopt new sections 95480, 95480.1, 95481, 95482, 95483, 95484, 95485, 95486, 95487, 95488, 95489, and 95490, title 17, California Code of Regulations (CCR), to read as follows:

(Note: The entire text of Subarticle 7 and sections 95480, 95480.1, 95481, 95482, 95483, 95484, 95485, 95486, 95487, 95488, 95489, and 95490 is new language. Subsection headings are shown in *italics* and are to be italicized in Barclays California Code of Regulations.)

Subchapter 10. Climate Change
Article 4. Regulations to Achieve Greenhouse Gas Emission Reductions

Subarticle 7. Low Carbon Fuel Standard

Section 95480. Purpose

The purpose of this regulation is to implement a low carbon fuel standard, which will reduce greenhouse gas emissions by reducing the full fuel-cycle, carbon intensity of the transportation fuel pool used in California, pursuant to the California Global Warming Solutions Act of 2006 (Health & Safety Code (H&S), section 38500 et.seq.).

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975). Reference cited: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975).

Section 95480.1. Applicability

(a) *Applicability of the Low Carbon Fuel Standard.*

Except as provided in this section, the California Low Carbon Fuel Standard regulation, title 17, California Code of Regulations (CCR), sections 95480 through 95490 (collectively referred to as the "LCFS") applies to any transportation fuel, as defined in section 95481, that is sold, supplied, or offered for sale in California, and to any person who, as a regulated party defined in section 95481 and specified in section 95484(a), is responsible for a transportation fuel in a calendar year. The types of transportation fuels to which the LCFS applies include:

(1) California reformulated gasoline ("gasoline" or "CaRFG");
(2) California diesel fuel ("diesel fuel" or "ULSD");

Section 95484. Requirements for Regulated Parties

(a) *Identification of Regulated Parties.* The purpose of this part is to establish the criteria by which a regulated party is determined. The regulated party is initially established for each type of transportation fuel, but this part provides for the transfer of regulated party status and the associated compliance obligations by agreement, notification, or other means, as specified below.

(1) *Regulated Parties for Gasoline*.

(A) *Designation of Producers and Importers as Regulated Parties*.

1. *Where Oxygenate Is Added to Downstream CARBOB.*

For gasoline consisting of CARBOB and an oxygenate added downstream from the California facility at which the CARBOB was produced or imported, the regulated party is initially the following:

a. With respect to the CARBOB, the regulated party is the producer or importer of the CARBOB; and

b. With respect to the oxygenate, the regulated party is the producer or importer of the oxygenate.

2. *Where No Separate CARBOB*. For gasoline that does not include CARBOB that had previously been supplied from the facility at which was produced or imported, the regulated party for the gasoline is the producer or importer of the gasoline.

(B) *Effect of Transfer of CARBOB by Regulated Party.*

1. *Threshold Determination Whether Recipient of CARBOB is a Producer or Importer.* Whenever a person who is the regulated party for CARBOB transfers ownership of the CARBOB, the recipient must notify the transferor whether the recipient is a producer or importer for purposes of this section 95484(a)(1)(B).

2. *Producer or Importer Acquiring CARBOB Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided for in section 95484(a)(1)(B)3., when a person who is the regulated party transfers ownership of the CARBOB to a producer or importer, the recipient of ownership of the CARBOB (i.e., the transferee) becomes the

regulated party for it. The transferor must provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

a. the volume and average carbon intensity of the transferred CARBOB. For a transferor that is a regulated party subject to section 95486(b)(2)(A)2., the transferor of CARBOB may report as the "average carbon intensity" on the product transfer document the total carbon intensity value for CARBOB as shown in the Carbon Intensity Lookup Table; and

b. the recipient is now the regulated party for the acquired CARBOB and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the CARBOB.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

3. *Transfer of CARBOB or Gasoline to a Producer or Importer and Retaining Compliance Obligation.*

Section 95484(a)(1)(B)2. notwithstanding, a regulated party transferring ownership of CARBOB to a producer or importer may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred CARBOB by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the CARBOB.

4. *If Recipient Is Not a Producer or Importer, Regulated Party Transferring CARBOB Remains Regulated Party Unless Specified Conditions Are Met.* When a person who is the regulated party for CARBOB transfers ownership of the CARBOB to a person who is not a producer or importer, the transferor remains the regulated party unless the conditions of section 95484(a)(1)(B)5. are met.

5. *Conditions Under Which a Non-Producer and Non-Importer Acquiring Ownership of CARBOB Becomes the Regulated Party.* A person, who is neither a producer nor an importer and who acquires ownership of CARBOB from the regulated party, becomes the regulated party for the CARBOB if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below::

a. the volume and average carbon intensity of the transferred CARBOB. For a transferor that is a regulated party subject to section 95486(b)(2)(A)2., the transferor of CARBOB may report as the “average carbon intensity” on the product transfer document the total carbon intensity value for CARBOB as shown in the Carbon Intensity Lookup Table; and

b. the recipient is now the regulated party for the acquired CARBOB and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the CARBOB.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

(C) *Effect of Transfer By Regulated Party of Oxygenate to Be Blended With CARBOB.*

1. *Person Acquiring the Oxygenate Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided in section 95484(a)(1)(C)2., when a person who is the regulated party for oxygenate to be blended with CARBOB transfers ownership of the oxygenate before it has been blended with CARBOB, the recipient of ownership of the oxygenate (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states:

a. the volume and carbon intensity of the transferred oxygenate; and

b. the recipient is now the regulated party for the acquired oxygenate and accordingly is responsible for meeting the requirements of the LCFS with respect to the oxygenate.

2. *Transfer of Oxygenate and Retaining Compliance Obligation.* Section 95484(a)(1)(C)1. notwithstanding, a regulated party transferring ownership of oxygenate may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred oxygenate by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the oxygenate.

(D) *Effect of Transfer by a Regulated Party of Gasoline to be Blended With Additional Oxygenate.* A person who is the sole regulated party for a batch of gasoline and is transferring ownership of the gasoline to another party that will be combining it with additional oxygenate may transfer his or her obligations as a regulated party if all of the conditions set forth below are met.

1. Blending the additional oxygenate into the gasoline is not prohibited by title 13, California Code of Regulations, section 2262.5(d).

2. By the time ownership is transferred the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligations as a regulated party with respect to the gasoline.

3. The transferor provides the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

   a. the volume and average carbon intensity of the transferred gasoline. For a transferor that is a regulated party subject to section 95486(b)(2)(A)2., the transferor may use the total carbon intensity value for CARBOB along with the carbon intensity for the oxygenate, as shown in the Carbon Intensity Lookup Table, for calculating the “average carbon intensity” on the product transfer document; and

   b. the recipient is now the regulated party for the acquired gasoline and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the gasoline.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of CARBOB may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

4. The written contract between the parties includes an agreement that the recipient of the gasoline will be blending additional oxygenate into the gasoline.

(E) *Effect of Transfer by a Regulated Party of Oxygenate to be Blended With Gasoline.* Where oxygenate is added to gasoline, the regulated party with respect to the oxygenate is initially the producer or importer of the oxygenate. Transfers of the oxygenate are subject to section 95484(a)(1)(C).

(2) *Regulated Party for Diesel Fuel and Diesel Fuel Blends.*

(A) *Designation of Producers and Importers as Regulated Parties.*

1. *Where Biomass-Based Diesel Is Added to Downstream Diesel Fuel.*

For a diesel fuel blend consisting of diesel fuel and biomass-based diesel added downstream from the California facility at which the diesel fuel was produced or imported, the regulated party is initially the following:

a. With respect to the diesel fuel, the regulated party is the producer or importer of the diesel fuel; and

b. With respect to the biomass-based diesel, the regulated party is the producer or importer of the biomass-based diesel.

2. *All Other Diesel Fuels.* For any other diesel fuel that does not fall within section 95484(a)(2)(A)1., the regulated party is the producer or importer of the diesel fuel.

(B) *Effect of Transfer of Diesel Fuel and Diesel Fuel Blends by Regulated Party.*

1. *Threshold Determination Whether Recipient of Diesel Fuel or Diesel Fuel Blend is a Producer or Importer.*

Whenever a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership before it has been transferred from its final distribution facility, the recipient must notify the transferor whether the recipient is a producer or importer for purposes of this section 95484(a)(2)(B).

2. *Producer or Importer Acquiring Diesel Fuel or Diesel Fuel Blend Becomes the Regulated Party Unless Specified Conditions Are Met.* Except as provided for in section 95484(a)(2)(B)3., when a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership to a producer or importer before it has been transferred from its final distribution facility, the recipient of ownership of the diesel fuel or diesel fuel blend (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

a. the volume and average carbon intensity of the transferred diesel fuel or diesel fuel blend. For a transferor that is a regulated party subject to section 95486(b)(2)(A)2., the transferor of diesel fuel or diesel fuel blend may report as the “average carbon intensity” on the product transfer document the total carbon intensity value for “diesel” (ULSD) as shown in the Carbon Intensity Lookup Table; and

b. the recipient is now the regulated party for the acquired diesel fuel or diesel fuel blend and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to it.

c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

i. the transferor under a. above must include the $Deficits^{XD}_{Incremental}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of diesel fuel or diesel fuel blend may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

3. *Transfer of Diesel Fuel or Diesel Fuel Blend to a Producer or Importer and Retaining Compliance Obligation.* Section 95484(a)(2)(B)2. notwithstanding, a regulated party transferring ownership of diesel fuel or diesel fuel blend to a producer or importer may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred diesel fuel or diesel fuel blend by providing the recipient at the time of transfer with a product transfer document that prominently states that the transferor has elected to remain the regulated party with respect to the diesel fuel or diesel fuel blend.

4. *If Recipient Is Not a Producer or Importer, Regulated Party Transferring Diesel Fuel or Diesel Fuel Blend Remains Regulated Party Unless Specified Conditions Are Met.*

When a person who is the regulated party for diesel fuel or a diesel fuel blend transfers ownership of the diesel fuel or diesel fuel blend to a person who is not a producer or importer, the transferor remains the regulated party unless the conditions of section 95484(a)(2)(B)5. are met.

5. *Conditions Under Which a Non-Producer and Non-Importer Acquiring Ownership of Diesel Fuel or Diesel Fuel Blend Becomes the Regulated Party.* A person, who is neither a producer nor an importer and who acquires ownership of diesel fuel or a diesel fuel blend from the regulated party, becomes the regulated party for the diesel fuel or diesel fuel blend if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states the information specified in paragraphs a. and b. below, and the transferor and recipient must meet the requirements specified in paragraph c., as set forth below:

   a. the volume and average carbon intensity of the transferred diesel fuel or diesel fuel blend. For a transferor that is a regulated party subject to section 95486(b)(2)(A)2., the transferor of diesel fuel or diesel fuel blend may report as the "average carbon intensity" on the product transfer document the total carbon intensity value for "diesel" (ULSD) as shown in the Carbon Intensity Lookup Table; and

   b. the recipient is now the regulated party for the acquired diesel fuel or diesel fuel blend and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the diesel fuel or diesel fuel blend.

   c. For purposes of section 95485(a), except as provided in paragraph c.iii. of this provision:

      i. the transferor under a. above must include the $Deficits^{XD}_{Incremental}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the transferor's annual credits and deficits balance calculation set forth in section 95485(a)(2); and

ii. the recipient under b. above must include $Deficits^{XD}_{Base}$, as defined and set forth in section 95486(b)(2)(A)2.a., in the recipient's annual credits and deficits balance calculation set forth in section 95485(a)(2).

iii. Paragraphs c.i and c.ii. above notwithstanding, the transferor and recipient of diesel fuel or diesel fuel blend may, by the time the ownership is transferred, specify by written contract which party is responsible for accounting for the base deficit and incremental deficit In the annual credits and deficits balance calculation set forth in section 95485(a)(2).

(C) *Effect of Transfer By Regulated Party of Biomass-Based Diesel to Be Blended With Diesel Fuel.*

1. *Person Acquiring the Biomass-Based Diesel Becomes the Regulated Party Unless Specified Conditions Are Met.*

Except as provided in section 95484(a)(2)(C)2., when a person who is the regulated party for biomass-based diesel to be blended with diesel fuel transfers ownership of the biomass-based diesel before it has been blended with diesel fuel, the recipient of ownership of the biomass-based diesel (i.e., the transferee) becomes the regulated party for it. The transferor must provide the recipient a product transfer document that prominently states:

a. the volume and carbon intensity of the transferred biomass-based diesel; and

b. the recipient is now the regulated party for the acquired biomass-based diesel and accordingly is responsible for meeting the requirements of the LCFS with respect to the biomass-based diesel.

2. *Transfer of Biomass-Based Diesel and Retaining Compliance Obligation.*

Section 95484(a)(2)(C)1. notwithstanding, the transferor may elect to remain the regulated party and retain the LCFS compliance obligation for the transferred biomass-based diesel by providing the recipient at the time of transfer with a product transfer document that prominently states that the

transferor has elected to remain the regulated party with respect to the biomass-based diesel.

(3) *Regulated Party For Liquid Alternative Fuels Not Blended With Gasoline Or Diesel Fuel.* For a liquid alternative fuel, including but not limited to neat denatured ethanol and neat biomass-based diesel, that is not blended with gasoline or diesel fuel, or with any other petroleum-derived fuel, the regulated party is the producer or importer of the liquid alternative fuel.

(4) *Regulated Party For Blends Of Liquid Alternative Fuels And Gasoline Or Diesel Fuel.*

(A) *Designation of producers and Importers as regulated parties.* For a transportation fuel that is a blend of liquid alternative fuel and gasoline or diesel fuel – but that does not itself constitute gasoline or diesel fuel – the regulated party is the following:

(1) With respect to the alternative fuel component, the regulated party is the person who produced the liquid alternative fuel in California or imported it into California; and

(2) With respect to the gasoline or diesel fuel component, the regulated party is the person who produced the gasoline or diesel fuel in California or imported it into California.

(B) *Transfer Of A Blend Of Liquid Alternative Fuel And Gasoline Or Diesel Fuel And Compliance Obligation.* Except as provided for in section 95484(a)(4)(C), on each occasion that a person transfers ownership of fuel that falls within section 95484(a)(4) ("alternative liquid fuel blend") before it has been transferred from its final distribution facility, the recipient of ownership of such an alternative liquid fuel blend (i.e., the transferee) becomes the regulated party for that alternative liquid fuel blend. The transferor shall provide the recipient a product transfer document that prominently states:

1. the volume and average carbon intensity of the transferred alternative liquid fuel blend; and

2. the recipient is now the regulated party for the acquired alternative liquid fuel blend and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the alternative liquid fuel blend.

(C) *Transfer Of A Blend Of Liquid Alternative Fuel And Gasoline Or Diesel Fuel And Retaining Compliance Obligation.* Section 95484(a)(4)(B) notwithstanding, the transferor may elect to remain

the regulated party and retain the LCFS compliance obligation for the transferred alternative liquid fuel blend by written contract with the recipient. The transferor shall provide the recipient with a product transfer document that identifies the volume and average carbon intensity of the transferred alternative liquid fuel blend.

(5) *Regulated Parties for Natural Gas (Including CNG, LNG, and Biogas).*

(A) *Designation of Regulated Parties for Fossil CNG and Biogas CNG.*

1. *Where Biogas CNG is Added to Fossil CNG.*

For fuel consisting of a fossil CNG and biogas CNG blend, the regulated party is initially the following:

a. With respect to the fossil CNG, the regulated party is the person that owns the natural gas fueling equipment at the facility at which the fossil CNG and biogas CNG blend is dispensed to motor vehicles for their transportation use; and

b. With respect to the biogas CNG, the regulated party is the producer or importer of the biogas CNG.

2. *Where No Biogas CNG is Added to Fossil CNG.* For fuel consisting solely of fossil CNG, the regulated party is the person that owns the natural gas fueling equipment at the facility at which the fossil CNG is dispensed to motor vehicles for their transportation use.

(B) *Designation of Regulated Parties for Fossil LNG and Biogas LNG.*

1. *Where Biogas LNG is Added to Fossil LNG.*

For a fuel consisting of a fossil LNG and biogas LNG blend, the regulated party is initially the following:

a. With respect to the fossil LNG, the regulated party is the person that owns the fossil LNG when it is transferred to the facility at which the liquefied blend is dispensed to motor vehicles for their transportation use; and

b. With respect to the biogas, the regulated party is the producer or importer of the biogas LNG.

2. *Where No Biogas LNG is Added to Fossil LNG.* For fuel consisting solely of fossil LNG, the regulated party is initially the person that owns the fossil LNG when it is transferred to the facility at which the fossil LNG is dispensed to motor vehicles for their transportation use.

(C) *Designation of Regulated Party for Biogas CNG or Biogas LNG Supplied Directly to Vehicles for Transportation Use.* For fuel consisting solely of biogas CNG or biogas LNG that is produced in California and supplied directly to vehicles in California for their transportation use without first being blended into fossil CNG or fossil LNG, the regulated party is initially the producer of the biogas CNG or biogas LNG.

(D) *Effect of Transfer of Fuel by Regulated Party.*

1. *Transferor Remains Regulated Party Unless Conditions Are Met.*

When a person who is the regulated party for a fuel specified in section 95484(a)(5)(A), (B), or (C) transfers ownership of the fuel, the transferor remains the regulated party unless the conditions of section 95484(a)(5)(D)2. are met.

2. *Conditions Under Which a Person Acquiring Ownership of a Fuel Becomes the Regulated Party.* Section 95484(a)(5)(D)1. notwithstanding, a person acquiring ownership of a fuel specified in section 95484(a)(5)(A), (B), or (C) from the regulated party becomes the regulated party for that fuel if, by the time ownership is transferred, the two parties agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states:

a. the volume and average carbon intensity of the transferred fuel; and

b. the recipient is now the regulated party for the acquired fuel and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the acquired fuel.

(6) *Regulated Parties for Electricity.* For electricity used as a transportation fuel, the regulated party is determined in the order specified below:

(A) The load-serving entity or other provider of electricity services, unless section 95484(a)(6)(B), (C), or (D) below applies. "Load-serving entity" has the same meaning specified in Public Utilities Code (PUC) section 380. "Provider of electricity services" means a local publicly-owned utility, retail seller (as defined in PUC section 399.12(g)), or any other person that supplies electricity to the vehicle charging equipment;

(B) The electricity services supplier, where "electricity services supplier" means any person or entity that provides bundled charging infrastructure and other electric transportation services and provides access to vehicle charging under contract with the vehicle owner or operator;

(C) The owner and operator of the electric-charging equipment, provided there is a contract between the charging equipment owner-operator and the provider of electricity services specifying that the charging equipment owner-operator is the regulated party;

(D) The owner of a home with electric vehicle-charging equipment, provided there is a contract between the homeowner and provider of electricity services specifying that the homeowner may acquire credits.

(7) *Regulated Parties for Hydrogen Or A Hydrogen Blend.*

(A) *Designation of Regulated Party at Time Finished Fuel is Created.*

For a volume of finished fuel consisting of hydrogen or a blend of hydrogen and another fuel ("finished hydrogen fuel"), the regulated party is initially the person who owns the finished hydrogen fuel at the time the blendstocks are blended to make the finished hydrogen fuel.

(B) *Transfer of Ownership and Retaining Compliance Obligation.* Except as provided for in section 95484(a)(7)(C), when a person who is the regulated party transfers ownership of a finished hydrogen fuel to another person, the transferor remains the regulated party.

(C) *Conditions Under Which a Person Acquiring Ownership of Finished Hydrogen Fuel Becomes the Regulated Party.* Section 95484(a)(7)(B) notwithstanding, a person who acquires ownership

of finished hydrogen fuel becomes the regulated party for the fuel if, by the time ownership is transferred, the two parties (transferor and recipient) agree by written contract that the person acquiring ownership accepts the LCFS compliance obligation as the regulated party. For the transfer of regulated party obligations to be effective, the transferor must also provide the recipient a product transfer document that prominently states:

1. the volume and average carbon intensity of the transferred finished hydrogen fuel; and

2. the recipient is now the regulated party for the acquired finished hydrogen fuel and accordingly is responsible for meeting the requirements of the LCFS regulation with respect to the acquired finished hydrogen fuel.

(b) *Calculation of Credit Balance.*

(1) *Compliance Period.* Beginning in 2011 and every year thereafter, the compliance period is January 1 through December 31 of each year.

(2) *Calculation of Credit Balance at the End of A Compliance Period.* A regulated party must calculate the credit balance at the end of a compliance period as follows:

$$CreditBalance = Credits^{Gen} + Credits^{CarriedOver} + Credits^{Acquired} + Deficits^{Gen} - Credits^{Sold} - Credits^{Exported} - Credits^{Retired}$$

where:

$Credits^{Gen}$ is the total credits generated pursuant to section 95485(a) for the current compliance period;

$Credits^{CarriedOver}$ is the credits or deficits carried over from the previous compliance period;

$Credits^{Acquired}$ is the credits purchased or otherwise acquired in the current compliance period;

$Deficits^{Gen}$ is the total deficits generated pursuant to section 95485(a) for the current compliance period;

$Credits^{Sold}$ is the credits sold or otherwise transferred in the current compliance period;

$Credits^{Exported}$ is the credits exported to programs outside the LCFS for the current compliance period; and

$Credits^{Retired}$ is the credits retired within the LCFS for the current compliance period.

(3) *Deficit Carryover.* A regulated party with a negative credit balance in a compliance period may carry over the deficit to the next compliance period, without penalty, if both the following conditions are met:

(A) the regulated party has a credit balance greater than or equal to zero in the previous compliance period; and

(B) the sum of the magnitude of $Credits^{Gen}$, $Credits^{CarriedOver}$, and $Credits^{Acquired}$ is greater than or equal to 90 percent of the sum of the magnitude of $Deficits^{Gen}$, $Credits^{Sold}$, $Credits^{Exported}$, $Credits^{Retired}$ and for the current compliance period.

(4) *Deficit Reconciliation.*

(A) A regulated party that meets the conditions of deficit carryover, as specified in section 95481(b)(3), must eliminate any deficit generated in a given compliance period by the end of the next compliance period. A deficit may be eliminated only by retirement of an equal amount of retained credits ($Credits^{CarriedOver}$), by purchase of an equal amount of credits from another regulated party, or by any combination of these two methods.

(B) If the conditions of deficit carryover as specified in section 95481(b)(3) are not met, a regulated party must eliminate any deficit generated in a given compliance period by the end of the next compliance period. A deficit may be eliminated only by retirement of an equal amount of retained credits ($Credits^{CarriedOver}$), by purchase of an equal amount of credits from another regulated party, or by any combination of these two methods. In addition, the regulated party is subject to penalties to the extent permitted under State law.

(C) A regulated party that is reconciling in the current compliance period a deficit from the previous compliance period under (A) or (B) above remains responsible for meeting the LCFS regulation requirements during the current compliance period.

(c) *Reporting Requirements.*

(1) *Reporting Frequency*. A regulated party must submit to the Executive Officer quarterly progress reports and annual compliance reports, as specified in sections 95484(c)(3) and 95484(c)(4). The reporting frequencies for these reports are set forth below:

(A) *Quarterly Progress Reports For All Regulated Parties.* Beginning 2010 and each year thereafter, a regulated party must submit quarterly progress reports to the Executive Officer by:

1. May 31st – for the first calendar quarter covering January through March;

2. August 31st – for the second calendar quarter covering April through June;

3. November 30th – for the third calendar quarter covering July through September; and

4. February 28th (29th in a leap year) – for the fourth calendar quarter covering October through December.

(B) *Annual Compliance Reports.* By April 30th of 2011, a regulated party must submit an annual report for calendar year 2010. By April 30th of 2012 and each year thereafter, a regulated party must provide an annual compliance report for the prior calendar year.

(2) *How To Report.* A regulated party must submit an annual compliance and quarterly progress report by using an interactive, secured internet web-based form.

The regulated party is solely responsible for ensuring that the Executive Officer receives its progress and compliance reports by the dates specified in section 95484(c)(1). The Executive Officer shall not be responsible for failure of electronically submitted reports to be transmitted to the Executive Officer. The report must contain a statement attesting to the report's accuracy and validity. The Executive Officer shall not deem an electronically submitted report to be valid unless the report is accompanied by a digital signature that meets the requirements of title 2, California Code of Regulations, section 22000 et seq.

(3) *General and Specific Reporting Requirements for Quarterly Progress Reports*. For each of its transportation fuels, a regulated party must submit a quarterly progress report that contains the information specified in Table 3 and meets the additional specific requirements set forth below:

(A) *Specific Quarterly Reporting Requirements (Except As Otherwise Noted) for Gasoline and Diesel Fuel.*

1. For each transfer of gasoline or diesel fuel that results in a transfer of the compliance obligation or retention of the compliance obligation by written contract, the regulated party must provide to the Executive Officer, within 10 business days of a request, the product transfer document containing the information identified in section 95484(a)(1)(B), (a)(1)(C), (a)(1)(D), (a)(2)(B), (a)(2)(C), (a)(4)(B), (a)(4)(C), (a)(5)(D), or (a)(7)(C), whichever applies.

2. The carbon intensity value of each blendstock determined pursuant to section 95486.

3. The volume of each blendstock (in gal) per compliance period. For purposes of this provision only, the regulated party may report the total volume of each blendstock aggregated for each distinct carbon intensity value (e.g., X gallons of blendstock with A gCO2e/MJ, Y gallons of blendstock with B gCO2e/MJ, etc.). Further, if the regulated party is subject to section 95486(b)(2)(A)2. for fuel or blendstock derived from high carbon-intensity crude oil (HCICO), regulated party must report the E_{HCICO}^{XD} per compliance period, where E_{HCICO}^{XD} is defined in section 95486(b)(2)(A)2.a.

4. All Renewable Identification Numbers (RINs) that are retired for facilities in California.

(B) *Specific Quarterly Reporting Requirements for Natural Gas (including CNG, LNG, and Biogas).* For each private access, public access, or home fueling facility to which the regulated party supplies CNG, LNG or biogas as a transportation fuel:

1. For CNG, the regulated party must report the amount of fuel dispensed (in scf) per compliance period for all light/medium-duty vehicles (LDV & MDV) and heavy-duty vehicles (HDV). For LNG, the regulated party must report the amount of fuel dispensed (in gal) per compliance period for all LDV & MDV and HDV;

2. Except as provided for in section 95484(c)(3)(B)3., the regulated party must report the amount of fuel dispensed

based on the use of separate fuel dispenser meters at each fuel dispenser;

3. In lieu of using separate meters at each fuel dispenser, the regulated party may report the amount of fuel dispensed at each facility using any other method that the regulated party demonstrates to the Executive Officer's satisfaction as being equivalent to or better than the use of separate fuel meters at each fuel dispenser in each fueling facility;

4. The carbon intensity value of the CNG, LNG, or biogas determined pursuant to section 95486.

(C) *Specific Quarterly Reporting Requirements for Electricity*. For electricity used as a transportation fuel, a regulated party must also submit the following:

1. For residential charging stations, the total electricity dispensed (in kWh) to all vehicles at each residence based on direct metering, which distinguishes electricity delivered for transportation use. Before January 1, 2015, "based on direct metering" means either:

   a. the use of direct metering (also called submetering) to measure the electricity directly dispensed to all vehicles at each residential charging station; or

   b. for households and residences only where direct metering has not been installed, the regulated party may report the total electricity dispensed at each residential charging station using another method that the regulated party demonstrates to the Executive Officer's satisfaction is substantially similar to the use of direct metering under section (c)(3)(C)1.a..

   Effective January 1, 2015, "based on direct metering" means only the use of direct metering as specified in section (c)(3)(C)1.a. above;

2. For each public access charging facility, the amount of electricity dispensed (in kW-hr);

3. For each fleet charging facility, the amount of fuel dispensed (in kW-hr).

4. The carbon intensity value of the electricity determined pursuant to section 95486.

(D) *Specific Quarterly Reporting Requirements for Hydrogen or a Hydrogen Blend.* For hydrogen or a hydrogen blend used as a transportation fuel, a regulated party must also submit the following:

1. For each private access fueling facility, the amount of fuel dispensed (in kg) by vehicle weight category: LDV & MDV and HDV.

2. For each public access filling station, the amount of fuel dispensed (in kg) by vehicle weight category: LDV & MDV and HDV.

3. The carbon intensity value of the hydrogen or the blendstocks used to produce the hydrogen blend determined pursuant to section 95486.

(4) *General and Specific Reporting Requirements for Annual Compliance Reports*. A regulated party must submit an annual compliance report that meets, at minimum, the general and specific requirements specified in section 95484(c)(3) above and the additional requirements set forth below:

(A) A regulated party must report the following:

1. The total credits and deficits generated by the regulated party in the current compliance period, calculated as per equations in section 95485(a);

2. Any credits carried over from the previous compliance period;

3. Any deficits carried over from the previous compliance period;

4. The total credits acquired from another party and identify the party from whom the credits were acquired;

5. The total credits sold or otherwise transferred and identify each party to whom those credits were transferred;

6. The total credits retired within the LCFS; and

7. The total credits exported to programs outside the LCFS.

(5) *Significant Figures*. The regulated party must report the following quantities as specified below:

(A) carbon intensity, expressed to the same number of significant figures as shown in the carbon intensity lookup table (Method 1);

(B) credits, expressed to the nearest whole metric ton CO2 equivalent;

(C) fuel volume, expressed as follows:

1. a fuel volume greater than 1 million gasoline gallon equivalent (gge) must be expressed to the nearest 10,000 gge;

2. a fuel volume between 100,000 gge and 1 million gge, inclusive, must be expressed to the nearest 1,000 gge;

3. a fuel volume between 10,000 gge and 99,999 gge, inclusive, must be expressed to the nearest 100 gge; and

4. a fuel volume less than 9,999 gge must be expressed to the nearest 10 gge.

(D) any other quantity not specified in section 95484(c)(5)(A) to 95484(c)(5)(C) must be expressed to the nearest whole unit applicable for that quantity.

(E) *Rounding Intermediate Calculated Values.* A regulated party must use one of the following procedures for rounding intermediate calculated values for fuel quantity dispensed, blended, or sold in California; calculated carbon intensity values; calculated LCFS credits and deficits; and any other calculated or measured quantity required to be used, recorded, maintained, provided, or reported for the purpose determining a reported value under the LCFS regulation (17 CCR section 95480 et seq.):

1. ASTM E 29-08 (October 1, 2008), *Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications*, which is incorporated herein by reference; or

2. Any other practice that the regulated party has demonstrated to the Executive Officer's written satisfaction provides equivalent or better results as compared with the method specified in subsection 95484(c)(5)(E)1. above.

Table 3. Summary Checklist of Quarterly and Annual Reporting Requirements for LCFS Transportation Fuels.

Parameters to Report	Gasoline & Diesel fuel	CNG & LNG	Electricity	Hydrogen Or Hydrogen Blends	Neat Ethanol or Biomass-Based Diesel Fuels
Company or organization name	x	x	x	x	x
Reporting period	x	x	x	x	x
Type of fuel	x	x	x	x	x
Blended fuel (yes/no)	x	x	x	x	x
If yes, number of blendstocks	x	x	n/a	x	x
Type(s) of blendstock	x	x	n/a	x	x
RIN numbers	x	n/a	n/a	n/a	x
Blendstock feedstock	x	x	n/a	x	x
Feedstock origin	x	x	n/a	x	x
Production process	x	x	x*	x	x
Amount of each blendstock (MJ)	x	x	n/a	x	x
**The CI of the fuel or blendstock ($CI^{XD}_{reported}$)	x	x	x	x	x
Amount of each fuel used as gasoline replacement (MJ)	x	x	x	x	x
Amount of each fuel used as diesel fuel replacement (MJ)	x	x	x	x	x
**Credits/deficits generated per quarter (MT)	x	x	x	x	x
For Annual Reporting (in addition to the items above)					
**Credits and Deficits generated per year (MT)	x	x	x	x	x
**Credits/deficits carried over from the previous year (MT), if any	x	x	x	x	x
**Credits acquired from another party (MT), if any	x	x	x	x	x
**Credits sold to another party (MT), if any	x	x	x	x	x
**Credits exported to another program (MT), if any	x	x	x	x	x
**Credits retired within LCFS (MT) , if any	x	x	x	x	x

** Optional. However if qualifying the CI value of electricity, under method 2A, that is different from CA Marginal electricity value, production process must be reported. **Value will be calculated or stored in the compliance tool.*

(d) *Recordkeeping and Auditing.*

(1) A regulated party must retain all of the following records for at least 3 years and must provide such records within 20 days of a written request received from the Executive Officer or his/her designee before expiration of the period during which the records are required to be retained:

(A) product transfer documents;

(B) copies of all data and reports submitted to the Executive Officer;

(C) records related to each fuel transaction; and

(D) records used for compliance or credit calculations.

(2) *Evidence of Physical Pathway.* A regulated party may not generate credits pursuant to section 95485 unless it has demonstrated or provided a demonstration to the Executive Officer that a physical pathway exists, for each of the transportation fuels and blendstocks for which it is responsible under the LCFS regulation, and that each physical pathway has been approved by the Executive Officer pursuant to this section 95484(d)(2). For purposes of this provision, "demonstrated" and "demonstration" includes any combination of either (i) a showing by the regulated party using its own documentation; or (ii) a showing by the regulated party that incorporates by reference documentation voluntarily submitted by another regulated party or a non-regulated party fuel producer, provided the documentation applies to and accurately represents the regulated party's transportation fuel or blendstock;

"Physical pathway" means the applicable combination of actual fuel delivery methods, such as truck routes, rail lines, gas/liquid pipelines, electricity transmission lines, and any other fuel distribution methods, through which the regulated party reasonably expects the fuel to be transported under contract from the entity that generated or produced the fuel, to any intermediate entities, and ending at the fuel blender, producer, importer, or provider in California.

The Executive Officer shall not approve a physical pathway demonstration unless the demonstration meets the following requirements:

(A) *Initial Demonstration of Delivery Methods.* The regulated party must provide an initial demonstration of the delivery methods comprising the physical pathway for each of the regulated party's fuels. The initial demonstration must include documentation in sufficient detail for the Executive Officer to verify the existence of the physical pathway's delivery methods.

The documentation must include a map(s) that shows the truck/rail lines or routes, pipelines, transmission lines, and other delivery methods (segments) that, together, comprise the physical pathway. If more than one company is involved in the delivery, each segment on the map must be linked to a specific company that is expected to transport the fuel through each segment of the physical pathway. The regulated party must provide the contact information for each such company, including the contact name, mailing address, phone number, and company name.

(B) *Initial Demonstration of Fuel Introduced Into the Physical Pathway.*

For each blendstock or alternative fuel for which LCFS credit is being claimed, the regulated party must provide evidence showing that a specific volume of that blendstock or fuel was introduced by its provider into the physical pathway identified in section 95484(d)(2)(A). The evidence may include, but is not limited to, a written purchase contract or transfer document for the volume of blendstock or alternative fuel that was introduced or otherwise delivered into the physical pathway.

(C) *Initial Demonstration of Fuel Removed From the Physical Pathway.* For each specific volume of blendstock or alternative fuel identified in section 95484(d)(2)(B), the regulated party must provide evidence showing that the same volume of blendstock or fuel was removed from the physical pathway in California by the regulated party and provided for transportation use in California. The evidence may include, but is not limited to, a written sales contract or transfer document for the volume of blendstock or alternative fuel that was removed from or otherwise extracted out of the physical pathway in California.

(D) *Subsequent Demonstration of Physical Pathway.* Once the Executive Officer has approved the initial demonstrations specified in section 95484(d)(2)(A) through (C), the regulated party does not need to resubmit the demonstrations for Executive Officer approval in any subsequent year, unless there is a material change to any of the information submitted under section 95484(d)(2)(A) through (C).

"Material change" means any change to the initially submitted information involving a change in the basic mode of transport for the fuel. For example, if an approved pathway using rail transport is changed to add to or replace the rail with truck or ship transport, that change would be deemed a material change.

If there is a material change to an approved physical pathway, the regulated party must notify the Executive Officer in writing within 30 business days after the material change has occurred, and the approved physical pathway shall become invalid 30 business days after the material change has occurred. A regulated party that wishes to generate credits after an approved physical pathway has become invalid must submit for Executive Officer approval a new initial demonstrations, pursuant to section 95484(d)(2)(A) through (C), which includes the material change(s) to the physical pathway.

(E) *Submittal and Review of and Final Action on Submitted Demonstrations*

1. The regulated party may not receive credit for any fuel or blendstock until the Executive Officer has approved the regulated party's submitted physical-pathway demonstration pursuant to section 95484(d)(2)(A) through (C). Upon receiving Executive Officer approval of a physical pathway, the regulated party may claim LCFS credits based on that pathway that are calculated retroactive to the date when the regulated party's use of the pathway began but no earlier than January 1, 2011.

2. Within 15 business days of receipt of a physical pathway demonstration, the Executive Officer shall determine if the physical pathway demonstration is complete and notify the regulated party accordingly. If incomplete, the Executive Officer shall notify the regulated party and identify the information needed to complete the demonstrations identified in section 95484(d)(2)(A) through (C). Once the Executive Officer deems the demonstrations to be complete, the Executive Officer shall, within 15 business days, take final action to either approve or disapprove a physical pathway demonstration and notify the regulated party of the final action.

(3) *Data Verification.* All data and calculations submitted by a regulated party for demonstrating compliance or claiming credit are subject to verification by the Executive Officer or a third party approved by the Executive Officer.

(4) *Access To Facility And Data.* Pursuant to H&S section 41510, if necessary under the circumstances, after obtaining a warrant, the Executive Officer has the right of entry to any premises owned, operated, used, leased, or rented by an owner or operator of a facility in order to inspect and copy records relevant to the determination of compliance.

(5) The Executive Officer shall post on the ARB's website at http://www.arb.ca.gov/fuels/lcfs/lcfs.htm the names and contact information for each regulated party and non-regulated party fuel producer that has obtained Executive Officer approval of its physical pathway demonstration; the transportation fuels and blendstocks covered by such Executive Officer approval; and details of the approved physical pathways disclosed in accordance with 17 CCR §§ 91000 – 91022 and the California Public Records Act (Government Code section 6250 et seq.).

(e) *Violations and Penalties.*

(1) Pursuant to H&S section 38580 (part of the California Global Warming Solutions Act of 2006), any violation of the provisions of the LCFS regulation (title 17, CCR, § 95480 et seq.) may be enjoined pursuant to H&S section 41513, and the violation is subject to those penalties set forth in Article 3 (commencing with § 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with § 43025) of Part 5 of, Division 26.

(2) Pursuant to H&S section 38580, any violation of the provisions of the LCFS regulation shall be deemed to result in an emission of an air contaminant for the purposes of the penalty provisions of Article 3 (commencing with § 42400) of Chapter 4 of Part 4 of, and Chapter 1.5 (commencing with § 43025) of Part 5 of, Division 26.

(3) Any violation of the provisions of the LCFS regulation shall be subject to all other penalties and remedies permitted under State law.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975). Reference cited: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975).

Section 95485. LCFS Credits and Deficits

(a) *Calculation of Credits and Deficits Generated.* A regulated party must calculate the amount of credits and deficits generated in a compliance period for an LCFS fuel using the methods specified below in section 95485(a)(1) through (3). The total credits and deficits generated are used in determining the overall credit balance for a compliance period, pursuant to section 95484(b). All credits and deficits are denominated in units of metric tons (MT) of carbon dioxide equivalent.

(1) All LCFS fuel quantities used for credit calculation must be in energy units of megajoules (MJ).

Fuel quantities denominated in other units, such as those shown in Table 4, must be converted to MJ by multiplying by the corresponding energy density[1]:

Table 4. Energy Densities of LCFS Fuels and Blendstocks.

Fuel (units)	Energy Density
CARBOB (gal)	119.53 (MJ/gal)
CaRFG (gal)	115.63 (MJ/gal)
Diesel fuel (gal)	134.47 (MJ/gal)
CNG (scf)	0.98 (MJ/scf)
LNG (gal)	78.83 (MJ/gal)
Electricity (KWh)	3.60 (MJ/KWh)
Hydrogen (kg)	120.00 (MJ/kg)
Anhydrous Ethanol (gal)	80.53 (MJ/gal)
Neat Biomass-based diesel (gal)	126.13 (MJ/gal)

(2) The total credits and deficits generated by a regulated party in a compliance period must be calculated as follows:

$$Credits^{Gen}(MT) = \sum_{i}^{n} Credits_i^{gasoline} + \sum_{i}^{n} Credits_i^{diesel}$$

$$Deficits^{Gen}(MT) = \sum_{i}^{n} Deficits_i^{gasoline} + \sum_{i}^{n} Deficits_i^{diesel}$$

where:

[1] Energy density factors are based on the lower heating values of fuels in CA-GREET using BTU to MJ conversion of 1055 J/Btu.

$Credits^{Gen}$ represents the total credits (a zero or positive value), in units of metric tons ("MT"), for all fuels and blendstocks determined from the credits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

$Deficits^{Gen}$ represents the total deficits (a negative value), in units of metric tons ("MT"), for all fuels and blendstocks determined from the deficits generated under either or both of the gasoline and diesel fuel average carbon intensity requirements;

i is the finished fuel or blendstock index; and

n is the total number of finished fuels and blendstocks provided by a regulated party in a compliance period.

(3) LCFS credits or deficits for each fuel or blendstock supplied by a regulated party must be calculated according to the following equations:

(A) $$Credits_i^{XD} / Deficits_i^{XD}(MT) = \left(CI_{s\tan dard}^{XD} - CI_{reported}^{XD}\right) \times E_{displaced}^{XD} \times C$$

where:

$Credits_i^{XD} / Deficits_i^{XD}$ *(MT)* is either the amount of LCFS credits generated (a zero or positive value), or deficits incurred (a negative value), in metric tons, by a fuel or blendstock under the average carbon intensity requirement for gasoline (*XD*="gasoline") or diesel (*XD*="diesel");

$CI_{s\tan dard}^{XD}$ is the average carbon intensity requirement of either gasoline (*XD*= "gasoline") or diesel fuel (*XD*= "diesel") for a given year as provided in section 95482 (b) and (c), respectively;

$CI_{reported}^{XD}$ is the adjusted carbon intensity value of a fuel or blendstock, in gCO2E/MJ, calculated pursuant to section 95485(a)(3)(B);

$E_{displaced}^{XD}$ is the total amount of gasoline (*XD*="gasoline") or diesel (*XD*="diesel") fuel energy displaced, in MJ, by the use of an alternative fuel, calculated pursuant to section 95485(a)(3)(C); and

C is a factor used to convert credits to units of metric tons from gCO2E and has the value of:

$$C = 1.0x10^{-6} \frac{(MT)}{(gCO_2E)}$$

(B) $$CI_{reported}^{XD} = \frac{CI_i}{EER^{XD}}$$

where:

CI_i is the carbon intensity of the fuel or blendstock, measured in gCO2E/MJ, determined by a California-modified GREET pathway or a custom pathway and incorporates a land use modifier (if applicable); and

EER^{XD} is the dimensionless Energy Economy Ratio (EER) relative to gasoline (*XD*="gasoline") or diesel fuel (*XD*= "diesel") as listed in Table 5. For a vehicle-fuel combination not listed in Table 5, EER^{XD}=1 must be used.

(C) $$E_{displaced}^{XD} = E_i \times EER^{XD}$$

where:

E_i is the energy of the fuel or blendstock, in MJ, determined from the energy density conversion factors in Table 4.

Table 5. EER Values for Fuels Used in Light- and Medium-Duty, and Heavy-Duty Applications.

Light/Medium-Duty Applications (Fuels used as gasoline replacement)		**Heavy-Duty/Off-Road Applications (Fuels used as diesel replacement)**	
Fuel/Vehicle Combination	**EER Values Relative to Gasoline**	**Fuel/Vehicle Combination**	**EER Values Relative to Diesel**
Gasoline (incl. E6 and E10) or E85 (and other ethanol blends)	1.0	Diesel fuel or Biomass-based diesel blends	1.0
CNG / ICEV	1.0	CNG or LNG	0.9
Electricity / BEV, or PHEV	3.0	Electricity / BEV, or PHEV	2.7
H2 / FCV	2.3	H2 / FCV	1.9

(BEV = battery electric vehicle, PHEV=plug-in hybrid electric vehicle, FCV = fuel cell vehicle, ICEV = internal combustion engine vehicle)

(b) *Credit Generation Frequency.* Beginning 2011 and every year afterwards, a regulated party may generate credits quarterly.

(c) *Credit Acquisition, Banking, Borrowing, and Trading.*

(1) A regulated party may:

(A) retain LCFS credits without expiration for use within the LCFS market;

(B) acquire or transfer LCFS credits. A third-party entity, which is not a regulated party or acting on behalf of a regulated party, may not purchase, sell, or trade LCFS credits, except as otherwise specified in (C) below; and

(C) export credits for compliance with other greenhouse gas reduction initiatives including, but not limited to, programs established pursuant to AB 32 (Nunez, Stats. 2006, ch. 488), subject to the authorities and requirements of those programs.

(2) A regulated party may not:

(A) use credits in the LCFS program that are generated outside the LCFS program, including, but not limited to, credits generated in other AB 32 programs.

(B) borrow or use credits from anticipated future carbon intensity reductions.

(C) generate LCFS credits from fuels exempted from the LCFS under section 95480.1(d) or are otherwise not one of the transportation fuels specified in section 95480.1(a).

(d) *Nature of Credits.* LCFS credits shall not constitute instruments, securities, or any other form of property.

NOTE: Authority cited: Sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975). Reference cited: Sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975).

Section 95486. Determination of Carbon Intensity Values

(a) *Selection of Method.*

(1) A regulated party for CARBOB, gasoline, or diesel fuel must use Method 1, as set forth in section 95486(b)(2)(A), to determine the carbon intensity of each fuel or blendstock for which it is responsible ("regulated party's fuel").

(2) A regulated party for any other fuel or blendstock must use Method 1, as set forth in section 95486(b)(2)(B), to determine the carbon intensity of each fuel for the regulated party's fuels, unless the regulated party is approved for using either Method 2A or Method 2B, as provided in section 95486(c) or (d).

(3) A regulated party's choice of carbon intensity value under Method 1 in either (a)(1) or (a)(2) above is subject in all cases to Executive Officer approval, as specified in this provision. If the Executive Officer has reason to believe that the regulated party's choice is not the value that most closely corresponds to its fuel or blendstock, the Executive Officer shall choose a carbon intensity value, in the Carbon Intensity Lookup Tables for the fuel or blendstock, which the Executive Officer determines is the one that most closely corresponds to the pathway for that fuel or blendstock. The Executive Officer shall provide the rationale for his/her determination to the regulated party in writing within 10 business days of the determination. The regulated party shall be responsible for reconciling any deficits, in accordance with section 95485, that were incurred as a result of its initial choice of carbon intensity values. In determining whether a carbon intensity value that is different than the one chosen by

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on March 23, 2018. I certify that all participants in the case are registered CM/ECF users that service will be accomplished by the appellate CM/ECF system.

/s/ M. Elaine Meckenstock
M. Elaine Meckenstock