LCFS Guidance

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Low Carbon Fuel Standard (LCFS) Guidance 22-02

Carbon Intensity, Credit Adjustments, Credit True Up, and Deficit Obligation Associated with 2025 Annual Fuel Pathway Reports

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A. Introduction

The California Air Resources Board's (CARB) Low Carbon Fuel Standard regulation (LCFS), title 17 sections 95480 to 95503 of the California Code of Regulations, is designed to reduce greenhouse gas emissions associated with the life cycle of transportation fuels used in California. CARB staff has prepared this guidance document to describe the regulatory requirements in a user-friendly format. Unlike the regulation itself, this document does not have the force of law. It is not intended to and cannot establish new mandatory requirements beyond those that are already in the LCFS Regulation, nor can it supplant, replace, or amend any of the legal requirements of the regulation. Conversely, any omission or truncation of regulatory requirements does not relieve entities of their legal obligation to comply with all requirements of the regulation fully.

This document describes the process for carbon intensity, credit adjustments, credit true up, and deficit obligation associated with the submission and verification of 2025 Annual Fuel Pathway Reports (AFPRs).

Non-provisional fuel pathways were certified with 24 months of operational data in the carbon intensity (CI) calculator submitted. AFPRs associated with these pathways also contain 24 months of operational data.

AFPRs associated with provisional fuel pathways may or may not include the full 24 months of operational data.

B. Contacts

For questions about the CI and credit invalidation or issuance communication based on verification of Annual Fuel Pathway Reports, please email LCFSAnnualReport@arb.ca.gov or the contact provided in the Notice of Initial Determination of Credit Invalidation.

C. CI Adjustment Process for Fuel Pathway Holders

Before verification of 2025 AFPRs is completed, fuel pathway holder must select a margin of safety (MOS) in the Alternative Fuel Portal (AFP). This MOS will be added to the final verified 2025 operational CI. The updated certified CI score will reflect the CA-GREET4.0 verified CI plus the selected MOS. The MOS can be updated during the verification cycle in the AFP until the verification statement is submitted by the verifier.

The updated certified CIs will take effect on January 1, 2027, and will be available for Q1 2027 reporting.

CARB will update all CI scores for Tier 1 and Tier 2 pathways subject to 2025 AFPR submissions that received a positive or qualified positive verification statement.

NOTE:

Due to the midyear (July 1, 2025) effective date of the regulatory amendments, in addition to being used to determine the certified CI effective January 1, 2026, any MOS selected in 2025 (for the 2024 AFPR) will also be used for the evaluation of the deficit obligation for 2025 reporting. The previously certified CI used for 2025 reporting will remain unchanged and will continue to apply for the remainder of the 2025 reporting year (i.e., Q1 through Q4 will use the same CI). The QFTRs submitted for 2025 will not be revised or modified because of the 2024 AFPR MOS selection. More detail is provided below.

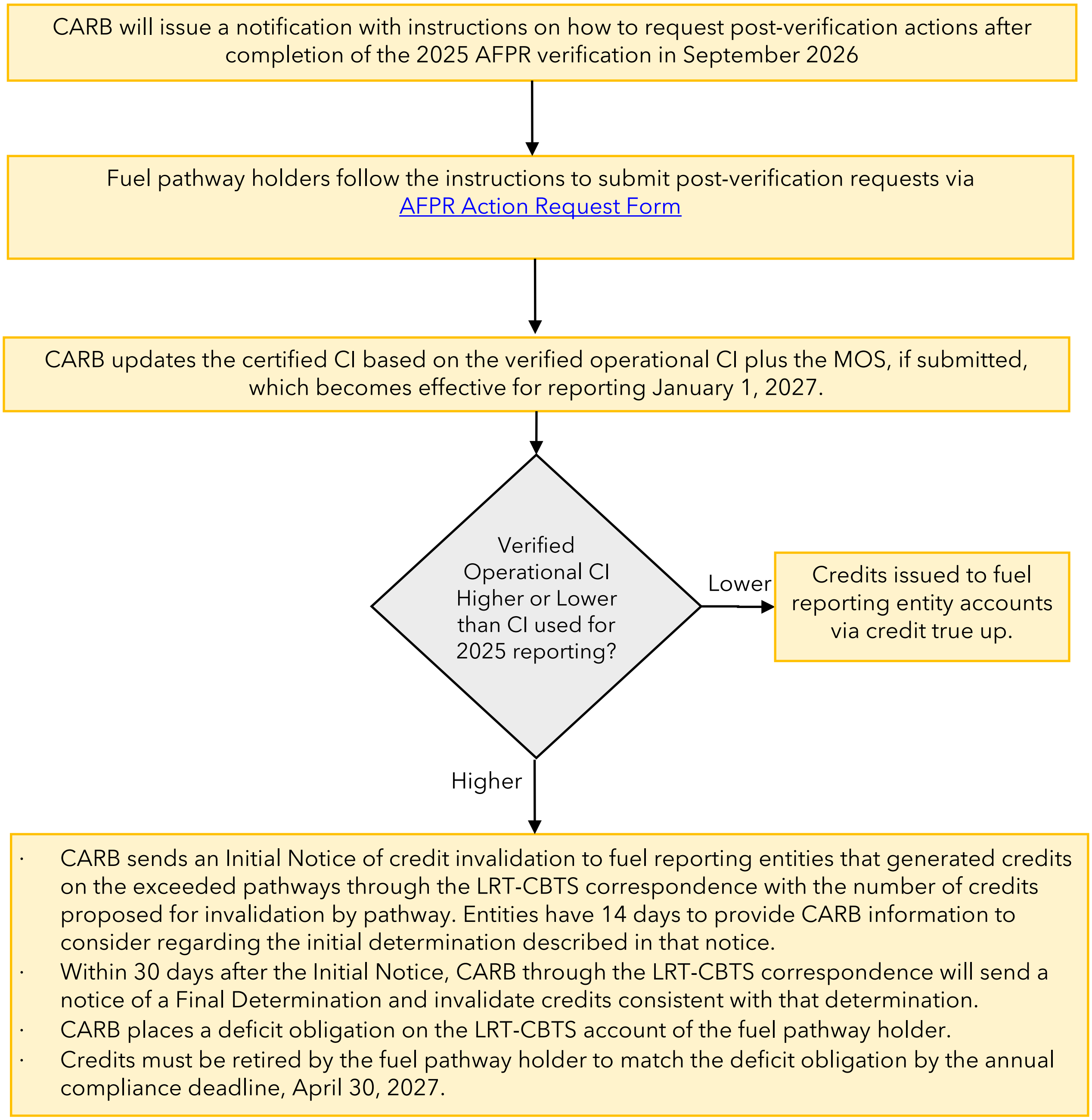

Figure 1. 2025 AFPR Post-Verification Steps for Pathways

D. Removal of Provisional Status

For a provisional fuel pathway with at least 24 months of operational data by the end of the compliance year (December 31, 2025), CARB will remove the provisional status after receiving a positive or qualified positive verification statement from the 2025 AFPR and replacing the previously certified CI with the newly certified CI pursuant to section 95488.9(c)(3).

E. Credit Invalidation Due to CI Exceedance

The 2025 LCFS credits generated by a fuel reporting entity for a Tier 1 or Tier 2 fuel pathway will be invalidated if the verified operational CI from the 2025 AFPR for the associated pathway was found to be higher than the certified CI used for 2025 transaction reporting. The MOS selected during the 2024 AFPR cycle will not affect the credit invalidation for 2025.

Verified operational CI exceedances that are solely due to calculator updates from CA-GREET3.0 to CA-GREET4.0 are not exempt from the credit invalidation.

The quantity of credits invalidated for CI exceedance is calculated as the difference between the number of credits generated with the certified CI and the number of credits that would have been generated using the verified operational CI. CARB invalidates credits in the account of the upstream credit generator where applicable pursuant to section 95495(b)(5)(A) of the LCFS regulation. This means the calculation of invalidated credits will not incorporate transactions that pass along the credit or deficit generation status to another fuel reporting entity through transaction types such as “Sold with Obligation.”

The 2025 LCFS regulation amendments went into effect on July 1, 2025, and are implemented starting with the Q3 2025 Quarterly Fuel Transaction Report (QFTR). That means the 2019 regulation benchmarks were in effect for Q1 and Q2 2025 QFTRs, and the 2025 regulation benchmarks are in effect for Q3 and Q4 2025 QFTRs. The change in the benchmarks will impact the credit invalidation calculation.

Fuel reporting entities subject to credit invalidation for CI exceedance will have 60 days from the final determination of credit invalidation to acquire any credits (i.e., purchase credits or report credit-generating fuel) needed to account for any negative credit balance created per section 95495(b)(4) of the LCFS regulation. Credit invalidation notices will be sent to individual fuel reporting entities and will follow the procedure in section 95495 of the LCFS regulation.

F. Credit True Up

Pursuant to Section 95488.10(b), beginning with the 2025 AFPR data reporting year, upon receiving a positive or qualified positive verification statement for the associated AFPR and quarterly fuel transactions reports, if the verified operational CI is lower than the previously certified CI used for credit generation during the compliance year, credits representing the difference between the verified CI and certified CI will be issued to fuel reporting entities.

Credits will be issued for True Ups starting with the entire 2025 data year, Q1 through Q4. CARB will issue the True Up credits after completion of verification for the 2025 AFPR in the fall of 2026. Credit true up applies to all Tier 1, Tier 2 and Temporary fuel pathways. The MOS selected during the 2024 AFPR cycle will not affect the credit true up for 2025. For the 2025 AFPR, the true up will be based on verified CI from CA-GREET4.0 for the entire year.

Fuel pathway codes that are subject to a credit true up reported with non-liquid fuel transaction types and the following liquid fuel transaction types: "Production in California," "Production for Import," and "Import" are eligible for the credit true up. Only credit generation for transactions submitted before the associated QFTR deadline will be eligible for a credit true up.

Temporary fuel pathways are only eligible for credit true up where complete operational data is available for the reporting quarter. Any reporting quarter that does not have complete operational data will not be issued credits during the annual credit true up process.

G. Deficit Obligation

Pursuant to Section 95486.1(g), beginning with 2025 fuel transactions reporting year, a fuel pathway holder for a non-provisional fuel pathway generates a deficit obligation following a verified CI exceedance. The deficit obligation shall be calculated in accordance with the equation specified in section 95486.1(g)(1).

Any fuel pathway holder without an LRT-CBTS account generating a deficit obligation must register and create an LRT-CBTS account to fulfill the reporting and compliance requirements.

Fuel pathway holders receiving deficit obligations for CI exceedance will have until the next annual compliance report deadline, April 30, to acquire (i.e., purchase credits), if necessary, and retire credits covering the deficit obligation following the compliance demonstration process in section 95485 of the LCFS regulation. For example, if a deficit obligation is issued to a fuel pathway holder in January 2027, the fuel pathway holder has until April 30, 2027, to acquire credits against the deficit obligation and submit their annual compliance report.

For 2025 and 2026 compliance years, fuel pathway holders who demonstrate that the verified operational CI exceedances are solely due to calculator updates from CA-GREET3.0 to CA-GREET4.0 are exempt from the deficit obligation. To make this demonstration, fuel pathway holders must submit both CA-GREET3.0 and CA-GREET4.0 modeling tools populated with the operational data for the same reporting period for annual verification in the AFP.

If a CI exceedance is identified in the CA-GREET4.0 modeling tool during the verification process (e.g., due to model adjustments made during verification), the fuel pathway holder shall coordinate with its verifiers to submit the CA-GREET3.0 modeling tool for verification as soon as possible.

To facilitate staff review and evaluation, fuel pathway holders shall follow the requirements below when submitting the verified modeling tools:

Final verified CA-GREET4.0 modeling tool

- The CA-GREET4.0 modeling tool must be submitted by selecting the Document Type “Pathway Calculator (CI Calculators or CA-GREET Model).”

- Under “Description”, clearly identify the file as the final verified CA-GREET4.0 modeling tool.

Final verified CA-GREET3.0 modeling tool

- The CA-GREET3.0 tool must be submitted under the Document Type “Supporting Document” by following the naming convention below:

    - AXXXXXX_CA-GREET3_for demonstration
    - BXXXXXX_CA-GREET3_for demonstration

  where AXXXXXX and BXXXXXX represent the corresponding fuel pathway numbers.

- Under “Description”, clearly identify the file as the final verified CA-GREET3.0 modeling tool for demonstration.

Failure to submit the CA-GREET4.0 and CA-GREET3.0 modeling tools in accordance with the requirements above may prevent staff from collecting the correct verified CI values, potentially affecting the evaluation of deficit obligations.

Both modeling tools shall be subject to verification by the verifier in accordance with annual verification requirements.

Under the Operational CI field, fuel pathway holders must enter the CI from the CA-GREET4.0 modeling tools.

For the 2025 compliance year only, if both CA-GREET3.0 and CA-GREET4.0 modeling tools result in a verified CI exceedance, the deficit obligation will be evaluated based on the smaller CI exceedance derived from either the CA-GREET3.0 or CA-GREET4.0 modeling results.

When evaluating if a deficit obligation is warranted for the 2025 fuel transaction reporting year (to be conducted in 2026), staff will compare the MOS selected in 2025 (during the 2024 AFPR cycle) to the 2025 verified CI exceedance (the CI exceedance between the verified 2025 operational CI and the CI used for 2025 reporting). If the MOS selected in 2025 (during the 2024 AFPR cycle) is equal to or greater than the 2025 verified CI exceedance, no deficit obligation will be assessed.

Fuel pathway holders who were not required to have their 2024 AFPRs verified, or who are not required to have their 2025 AFPRs verified, can reach out to CARB at LCFSAnnualReport@arb.ca.gov to discuss available options for evaluating any deficit obligation for their pathways for the 2025 compliance year.

G.1 Example–Evaluation of the deficit obligation for 2025 compliance year

Company A's Tier 1/Tier 2 pathway received a verified operational CI of 20 gCO_2e/MJ through the 2023 AFPR (submitted and verified in 2024). After the 2023 AFPR verification, Company A elected to apply an MOS of 5 gCO_2e/MJ. Accordingly, Company A's certified CI became 25 gCO_2e/MJ, effective January 1, 2025. In 2025 reporting year, Company A's Tier 1/Tier 2 pathway is nonprovisional.

Starting January 1, 2025, Company A reported and generated credits for the 2025 reporting year based on this certified CI value of 25 gCO_2e/MJ.

In fall 2026, following submission and verification of the 2025 AFPR, Company A's pathway received a verified operational CI of 30 gCO_2e/MJ. Therefore, the verified CI exceedance (the difference between the verified 2025 operational CI and the CI that used for 2025 reporting) for Company A's pathway is 5 gCO_2e/MJ.

If Company A can demonstrate that the 5 gCO_2e/MJ CI exceedance is solely due to the transition from CA-GREET3.0 to CA-GREET4.0 modeling tools, Company A is exempt from the deficit obligation, pursuant to Section 95488.10(a)(7)(C).

If Company A cannot demonstrate that the 5 gCO_2e/MJ CI exceedance is solely due to the transition from CA-GREET3.0 to CA-GREET4.0 modeling tools, and the 5

gCO_2e/MJ CI exceedance represents the smaller CI exceedance derived from either the CA-GREET3.0 or CA-GREET4.0 modeling results, the following two scenarios apply.

Scenario 1 – Updated MOS selected in 2025 (2024 AFPR Cycle) covers the verified CI exceedance

Company A selected an MOS of 10 gCO_2e/MJ in fall of 2025 (during 2024 AFPR cycle).

Since the MOS is equal to or greater than the verified CI exceedance, Company A will not incur a deficit obligation.

Company A, or the fuel reporting entity if different, will still be subject to credit invalidation based on the verified CI exceedance derived from CA-GREET4.0 modeling tool.

Scenario2 – Updated MOS selected in 2025 (2024 AFPR Cycle) does not cover the verified CI exceedance, or no MOS selected

Company A selected an updated MOS of 3 gCO_2e/MJ in 2025 (during 2024 AFPR cycle).

Since the MOS is less than the verified CI exceedance, Company A will incur a deficit obligation, and the deficit obligation will be evaluated based on the verified CI exceedance of 5 gCO_2e/MJ.

In addition, Company A, or the fuel reporting entity if different, will still be subject to credit invalidation based on the verified CI exceedance derived from CA-GREET4.0 modeling tool.