

LCFS 2025 Annual Reporting Kickoff

FEBRUARY 27, 2026



Outline

- Overview
- Reporting 2025 Annual Fuel Pathway Reports (AFPRs)
- Quarterly Fuel Transaction Reports (QFTRs) and Annual Compliance Report
- MCON, LC/LEU, and Project Report for Verification
- Other updates of 2025 LCFS Regulation

2024 Reporting Recap

- Report types: AFPRs, QFTRs, and Project Reports including LC/LEU (annual/quarterly) and MCON
- **AFPRs**
 - 387 applications verified (including 36 Joint Applicant submissions)
 - 24 applications deferred verification
 - 10 applications were not submitted, and 2 did not complete verification
- **QFTRs**
 - 129 reports verified
 - 7 applications deferred verification
 - 1 report was not submitted/did not complete verification
- **Project Reports**
 - 45 reports verified

Enforcement

- Issues that could lead to enforcement
 - Incorrect data reported
 - Failure to fix correctable errors that result in an adverse statement
 - Late reports or failure to report
 - Late verification or failure to verify
 - Verified operational CI is greater than the CI used to report in 2025
- LCFS Enforcement Activities are posted:
 - [LCFS Enforcement | California Air Resources Board](#)

Who Must Report

- **AFPRs**- Fuel pathway holders of Tier 1 and Tier 2 fuels pathways and certain Lookup Table hydrogen and electricity pathways and joint applicants ([LCFS Guidance 22-01](#))
- **QFTRs**- All reporting parties, including reporting no transactions if applicable
- **Annual Compliance Reports**- All reporting parties, including reporting no transactions if applicable
- **Project Reports**- Project operators and joint applicants for Innovative Crude, Refinery Investment Credit Program and Renewable Hydrogen Refinery Credit Program
- **LC/LEU Reports**- Eligible petroleum refinery operators
- **MCON reports**- Producers of CARBOB, gasoline, or diesel supplying to California

Key Dates for Reporting 2025 Data

Report Type	Annual Report Deadline	Annual Verification Deadline	Report Submission Method
Annual Fuel Pathway Report (AFPR)	April 1, 2026	August 31, 2026	<ul style="list-style-type: none"> • AFP AFPR Tab (Primary Applicant) • AFP Correspondence (Joint Applicant)
Annual Report on Transactions Subject to Verification (QFTR)		August 31, 2026	LRT Verification Tab
Annual Compliance Report	April 30, 2026		LRT LCFS Reports Tab View Annual Reports button
Annual Marketable Crude Oil Volume (MCON) Report	April 30, 2026	August 31, 2026	LRT Verification Tab
Annual Project Report	April 30, 2026	August 31, 2026	LRT Verification Tab
Low-Complexity/Low-Energy-Use Refinery Report (LC/LEU) Report	April 1, 2026	August 31, 2026	LRT Verification Tab

Note: Deadlines that fall on non-working days (i.e., holidays, weekends) are moved to the next working day

Key Dates for Quarterly Project Reports

2026 Quarter	Quarterly Report Deadline	Quarterly Verification Deadline	Submission Method
Q1: January-March	June 30, 2026	November 30, 2026	LRT Verification Tab
Q2: April-June	September 30, 2026	March 1, 2027	LRT Verification Tab
Q3: July-September	December 31, 2026	May 31, 2027	LRT Verification Tab
Q4: October-December	April 1, 2027	August 31, 2027	LRT Verification Tab

Demonstration of Annual Report Submissions

- Please watch the [LCFS Annual Report submission demonstration videos](#) below for step-by-step submissions instructions:
 - [Annual Fuel Pathway Report \(AFPR\)](#)
 - [Quarterly Fuel Transaction Report \(QFTR\) Submission](#)
 - [Quarterly Fuel Transactions Subject to Verification Submission](#)
 - [Annual Compliance Report](#)
 - [Project Report, LC/LEU Report, and MCON Reports Submission for Verification](#)

References for Reporting Entity and Verification Bodies to Submit Their Documents

- [LCFS 22-01 Guidance Document- 2025 Annual Report Guidance](#)
- [LCFS 22-02 Guidance Document- Carbon Intensity and Credit Adjustments Associated with the LCFS Annual Fuel Pathway Reports \(AFPRs\)](#)
- Reporting Party would follow section D of the [LRT Verification User Guide](#)
- VB would follow sections O-Q of the [Verification On-Line Tool User Guide](#)

Reporting Tips

- Follow the 2025 Low Carbon Fuel Standard Regulation to report 2025 data
 - [2025 LCFS Regulation](#)
- User guidance located at:
 - [LCFS Alternative Fuels Portal \(AFP\) User Guide](#)
 - [LCFS LRT-CBTS User Guide](#)
 - [Verification On-Line Tool User Guide](#)
- Other resources on the Low Carbon Fuel Standard website:
 - [LCFS Guidance Documents, User Guides, and FAQs](#)
- Contact CARB for any questions (LCFSAnnualReport@arb.ca.gov)
 - Save any correspondence as part of the GHG Monitoring Plan to provide to the verifier

Verification Essentials

- **For Specified Source Feedstock (§95488.8(g))**
 - Be prepared to trace specified source feedstocks to their points-of-origin, including providing point-of-origin contact information for the verifiers
 - Ensure specified source feedstock attestations are signed and maintained by **all** upstream suppliers
- Ensure the reporter's Monitoring Plan meets the requirements of section 95491.1(c)
- Correctable errors must be fixed. If not, the verifier must submit an adverse verification statement
- If the verifier or reporter is unsure of the verification requirements, please contact CARB for assistance (LCFSVerify@arb.ca.gov)
- Retain all correspondence with CARB in the Monitoring Plan

Verification Best Practices

- Streamline verification:
 - Execute verifier contract as soon as possible, even prior to report submission
 - Associate your verifier with your report in the online tool
 - It is good practice to have a webinar with your verifier prior to any required site visit
 - ✓ Prepare in advance for verifier questions and data/documentation request
 - Open and prompt communication will facilitate resolution of any issues
- Start early and finish early to assure you are meeting deadlines
 - Late verifications are not accepted
- Verifier rotation requirement
 - Entities must disengage from the VB or verifier 6 years from the first contract execution date, or earlier, for a minimum of 3 years. See [FAQ - Verifier Rotation Requirements](#) at [LCFS Verification | California Air Resources Board](#)

Verification Best Practices – Deferred Verification

- Know if you are required to obtain verification
 - Fuel pathway holders may defer verification of their AFPRs for each production facility up to two years if the quantity of fuel produced and reported by any entity does not result in 6,000 or more credits and 6,000 or more deficits generated in LRT-CBTS during the prior calendar year
 - Fuel reporting entities may defer annual verification of their QFTRs up to two years if they do not generate 6,000 or more credits or 10,000 or more credits if fuel transaction types identified in section 95500(c)(1)(D) through (E) are reported, and also do not result in 6,000 or more deficits in LRT-CBTS during the prior calendar year
 - Fuel pathway holders classified as joint applicants are not eligible to defer
 - Any fuel quantity reported under a pathway with biomethane or hydrogen supplied using book-and-claim accounting pursuant to section 95488.8(i)(2) is not eligible for deferred verification

Verification Best Practices – Deferred Verification (cont'd)

- If you have deferred the last two verifications, you are required to verify all three years
- If you deferred last year but are not eligible to defer this year, you are required to verify both years
- To use a deferred verification, please select the "Deferred Verification" option when selecting a Verification Body within the online tool
- **YOU MUST** select "Deferred Verification" as a Verification Body in order to indicate to CARB that you wish to defer verification
- Please **DO NOT** select an actual verification body if you wish to defer verification. Notify CARB if incorrect verifier selected

Annual Fuel Pathway Report (AFPR)

Add Margin of Safety (MOS)

- The margin of safety (MOS) now is collected and can be updated in the AFP before AFPR verification is submitted

The newly certified CI = verified 2025 operational CI + MOS

- The MOS is a required field in AFP. If you are unable to determine the appropriate MOS at the time of AFPR submission, please enter zero as a placeholder. The MOS can be updated to your selected value during the verification process
- Fuel pathway holder shall finalize and update the MOS in the AFP before the verification body submits the verification statement. Once verification is completed, the AFP will not allow further MOS updates
- Staff recommend fuel pathway holder selecting an MOS to avoid credit invalidation, deficit obligation, and potential enforcement action for CI exceedance

Operational CI

FPC: Select...

Operational CI:

No fuel production to report

Number of months of

Margin of Safety value:

Close Add Operational CI

Year	Fuel Pathway	Operational CI	Fuel Name	Feed Stock	Pathway Description	Number of months	Margin of Safety value	No fuel production to report	Current CI	Date	Edit	Delete
No records to display.												

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Margin of Safety (cont'd)

- Pursuant to §95488.4(a) and §95488.10(a)(6)(B), MOS may be requested only during:
 - Initial pathway certification
 - AFPR recertification
- LCFS regulations do not allow MOS selection or revisions outside the stages described above. Following completion of the 2025 AFPR cycle, a pathway's CI cannot be changed by adding or updating an MOS until the 2026 AFPR cycle
- For the following AFPR-related requests, please submit the request through the [LCFS AFPR Action Request Form](#):
 - Request to retire a certified pathway
 - Request to keep previously certified CI for a pathway with lower verified CI
 - Request for ownership transfer of a facility subject to AFPR reporting
 - Report a Force Majeure event that may impact AFPR reporting
 - If an entity forgets to update MOS prior to completion of verification or wishes to update the MOS after verification has been completed, the updated MOS must also be submitted through the Form. However, due to the large volume of data processed through the Form, this approach is not recommended

Joint Applicant Submission

- Joint applicant provides site-specific data such as emissions factors and/or operational data to complete life cycle GHG emissions of a fuel pathway
 - Example: LNG production data, rendering emission factor of UCO/tallow, emissions factor of biomethane used in book and claim of biomethane for hydrogen production
- Joint applicant must submit the annual report through AFP correspondence
 - Include a report covering operational data and/or Emissions Factor/Carbon Intensity calculations
- Provide the application number for the primary applicant(s) and provide brief information on data/EF subject to verification in the comments box
- Joint applicant shall provide the submitted annual report directly to their Verification Body for verification

Fuel Pathway Holder as Joint Applicant

- A fuel pathway holder (primary applicant) can also be a joint applicant with another fuel pathway holder
 - For example, a fuel pathway holder of biomethane pathways can become a joint applicant for a hydrogen fuel pathway via book and claim
- For such a dual role, submission as a joint applicant is required
 - The joint applicant report will be the same AFPR submitted as the primary applicant
 - In the example above, the entity would submit the same biomethane pathway AFPR as both the primary applicant via AFPR portal and as the joint applicant via AFP correspondence
 - The same verification covers both the primary fuel pathway and the joint applicant

Transition from 3.0 and 4.0 calculators

- From 2025 AFPR, Fuel Pathway Holders must submit AFPRs using CA-GREET4.0 modeling tools (including 4.0 Tier 1 calculators)
- Fuel Pathway Holders:
 - If transitioning a fuel pathway to a CA-GREET4.0 modeling tool requires modifications to the CA-GREET4.0 modeling tools, upload proposed modifications via AFP correspondence and contact CARB staff via email (LCFSAnnualReport@arb.ca.gov) to get approval for the proposed modifications
 - Submit AFPRs with modified CA-GREET 4.0 model only after CARB approves the proposed changes
 - Use Tier 1 hydrogen calculator if previously certified as Tier 2 hydrogen pathway
- Joint Applicants (JAs):
 - Update the JA calculator to capture the updated emission factors from CA-GREET4.0 modeling tools
 - Request CARB approval for proposed modifications via AFP correspondence. Upload the proposed modifications

Submitting CA-GREET3.0 calculators as needed

- Beginning with 2025 AFPR, non-provisional Fuel Pathway holders accrue a deficit obligation if the verified operational CI exceeds the certified CI used for reporting (section 95486.1(g))
 - Any non-provisional fuel pathway holder with verified CI exceedance must register for an LRT-CBTS account to calculate deficit obligation
- A deficit obligation is exempt for 2025 and 2026 compliance years if a fuel pathway holder can demonstrate the CI exceedance is solely due to calculator updates (§95488.10(a)(7)(D))
 - Submit CA-GREET3.0 and CA-GREET4.0 modeling tools populated with the same operational data for the same reporting period for annual verification
 - Verifiers must verify the same operational data and period are used in both modeling tools
 - Correctly name the verified CA-GREET3.0 and CA-GREET4.0 files according to [Guidance 22-02](#) to facilitate CARB staff review and evaluation

Uploading CA-GREET3.0 and 4.0 modeling tools

- **CA-GREET4.0 modeling tools**

- The CA-GREET4.0 modeling tool must be submitted by selecting the Document Type "Pathway Calculator (CI Calculators or CA-GREET Model)"
- When submitting a verified calculator, clearly identify the file as the final verified CA-GREET4.0 modeling tool under "Description"

- **CA-GREET3.0 modeling tools**

- The CA-GREET3.0 tool must be submitted under the Document Type "Supporting Document" by following the naming convention below:
 - ✓ AXXXXXX_CA-GREET3.0_for demonstration
 - ✓ BXXXXXX_CA-GREET.3.0_for demonstration

where AXXXXXX and BXXXXXX represent the corresponding fuel pathway numbers
- When submitting a verified calculator, clearly identify the file as the final verified CA-GREET3.0 modeling tool for demonstration under "Description"

Credit Invalidation and Deficit Obligation

- When the verified operational CI exceeds the certified CI used for reporting for the compliance year, a CI exceedance occurs. A CI exceedance results in the following outcomes:

Provisional pathway:

- Credit invalidation, CARB claws back excess credits generated (§ 95488.10(a)(7))

Non-provisional pathway:

- Credit invalidation (§ 95488.10(a)(7)); and
 - Deficit obligation (§ 95486.1(g))
- Unlike the treatment of deficit obligations, the regulation does not provide an exemption from credit invalidation when CI exceedance is solely due to calculator updates

How to Assess Deficit Obligation for 2025 AFPR

According to [LCFS Guidance 22-02](#), staff will compare the MOS selected during the 2024 AFPR cycle to any 2025 AFPR verified CI exceedance

- If 2024 AFPR MOS \geq 2025 AFPR verified CI exceedance, no deficit obligation will be assessed
- If 2024 AFPR MOS $<$ 2025 AFPR verified CI exceedance, deficit obligation will be assessed based on the 2025 verified CI exceedance

For fuel pathway holders whose 2024 AFPRs were not subject to verification, including pathways that did not exist in 2024 AFPR cycle, the MOS selected in 2025 AFPR cycle will be used, on a one-time basis, to assess deficit obligation for the 2025 compliance year

- If 2025 AFPR MOS \geq 2025 AFPR verified CI exceedance, no deficit obligation will be assessed
- If 2025 AFPR MOS $<$ 2025 AFPR verified CI exceedance, deficit obligation will be assessed based on the 2025 verified CI exceedance

Credit True Up

- Beginning with the 2025 AFPR, the Executive Officer shall perform a credit true up for a fuel pathway, that has a lower verified operational CI than the CI used for report during the compliance year (§ 95488.10(b))
- Applicable to Tier 1, Tier 2 and temporary fuel pathways
- True Up credits are calculated as the difference between credit generation based on the verified operational CI from the 2025 AFPR and the CI used for reporting in 2025. True up credits will be placed in the account of each appropriate fuel reporting entity after August 31 for the prior compliance year
- For temporary fuel pathways, only reporting quarters for which complete operational data are reported in the AFPR are eligible for credit true up

Credit True Up (cont'd)

- Applicable to fuel pathway codes reported with:
 - Non-liquid transaction types, and liquid fuel transaction types with “Production in California,” “Production for Import,” and “Import” **during a compliance year**
- A fuel pathway holder must obtain a verified operational CI through AFPR process to be eligible for credit True Up
- Credit True Up is limited to a maximum of 12 months of operational data within the applicable compliance year

For 2025 AFPRs Only

Credit True Up will apply to all operational months reflected in the verified CA-GREET4.0 modeling tools, up to a maximum of 24 months of operational data

Hydrogen Refueling and Fast Charging Infrastructure (HRI/FCI)

- Beginning in 2025, Cost & Revenue Reports for HRI stations and FCI sites are now submitted annually, rather than quarterly
 - The new 2025 Cost & Revenue report template already has been sent to you via LRT Correspondence
 - Reporting for all sites for the year is now on a single worksheet
- Data must still be broken down by quarter
- Refer to [LCFS Guidance 19-02](#) for additional information
- Must be submitted via LRT Correspondence, separate from the Annual Report package

Lessons Learned

- Some fuel pathway holders of biomethane pathways that are also joint applicants with hydrogen pathways have not been submitting joint applicant reports via AFP correspondence as required
- Some fuel pathway holders with multiple pathways are misreporting operational CIs (i.e., reporting operational CIs with the incorrect fuel pathway codes) - please double check all pathway - CI combinations
- Some fuel pathway holders who make corrections to the calculators at the request of the verifiers are forgetting to update the Annual Fuel Pathway Report operational CI in the AFP when they resubmit their reports

Quarterly Fuel Transaction Report (QFTR) and Annual Compliance Report

Quarterly Fuel Transaction Report (QFTR) Submission

Reporting Period	QFTR Upload Deadline*	QFTR Submission Deadline	Submission Method
Q4 2025: October-December	February 17, 2026	April 1, 2026	LRT LCFS Reports Tab
Q1 2026: January-March	May 15, 2026	June 30, 2026	
Q2 2026: April-June	August 14, 2026	September 30, 2026	
Q3 2026: July-September	November 16, 2026	December 31, 2026	

*The data for the quarterly fuel transactions report for each fuel type must be uploaded in the LRT-CBTS within the first 45 days after the end of the quarter (section 95491(b)(1))

- Annual compliance report must be submitted in LRT-CBTS by April 30, 2026
- 2025 Quarterly Reports Verification deadline is August 31, 2026

QFTR Regulatory Amendments

- **Beginning with Q3 2025 reporting:**
 - Designation agreements for eForklifts shifts from fleet owners to facility owners
 - Forklifts must be reported by lift capacity either < 12,000 lbs or >= 12,000 pounds
 - eTRU FSEs shifts from individual equipment to facility location
 - Multi-family housing is eligible under non-residential EV charging FSE registration
 - All electricity credit proceeds must be used to further transportation electrification efforts in CA
 - Heavy duty stations are eligible for FCI and HRI crediting
 - Fixed guideways are eligible for electricity crediting using the calculation in section 95486.1(a)(1)
- **Beginning with 2026 reporting:**
 - eForklift reporting is no longer eligible to use estimation methodology
 - Electricity and Hydrogen transactions are subject to verification
 - ✓ Entities can remove their electricity verification requirement if all electricity transactions subject to verification are removed through an approved QFTR correction prior to the QFTR verification deadline

Project Report and LC/LEU Report Submission & MCON Reports for Verification

Project Reports

- The following Project Report types must be submitted by project operators and joint applicants and be verified:
 - Innovative crude projects
 - Low-Complexity/Low-Energy-Use (LC/LEU) projects
 - Refinery investment projects
 - Renewable hydrogen refinery projects
 - Direct air capture projects

Reporting Requirement

- The reporting entity must submit primary data, documentation, attestation, and credit calculations as required in the CARB Staff Summary of the initial approval
- Project Reports are submitted via LRT-CBTS Verification
 - Reports are submitted directly to CARB and the contracted VB

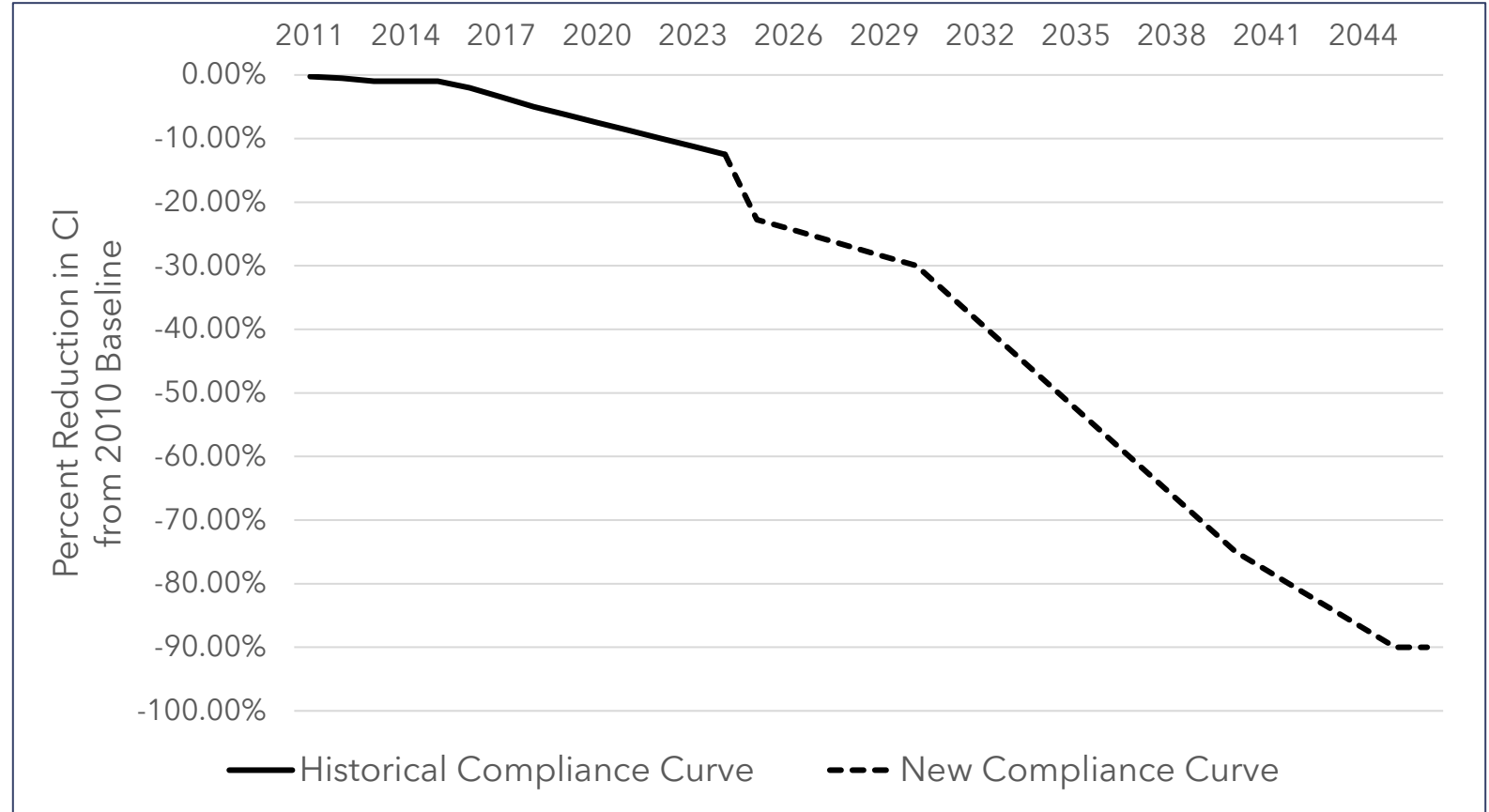
Additional Information for MCON Reports

- If a reporting entity is responsible for the compliance of multiple refineries, each refinery must be separately reported in the MCON, pursuant to §95491(d)(1)(A)4
- Each crude volume must be independently reported with its associated "crude identifier," pursuant to §95491(d)(1)(A)4, it cannot be reported as an aggregate crude volume
- Verification of MCON reports occur on the refinery and unique "crude identifier" levels and not on aggregate totals

Other Updates in 2025 LCFS Regulation

CI Benchmark Schedule

	Gasoline gCO ₂ e/MJ	Diesel gCO ₂ e/MJ	Jet gCO ₂ e/MJ
2025	76.60	81.70	81.70
2026	75.16	80.17	80.17
2027	73.72	78.63	78.63
2028	72.28	77.10	77.10
2029	70.84	75.57	75.57
2030	69.40	74.03	74.03
2031	64.94	69.27	69.27
2032	60.48	64.51	64.51
2033	56.02	59.75	59.75
2034	51.55	54.99	54.99
2035	47.09	50.23	50.23
2036	42.63	45.47	45.47
2037	38.17	40.71	40.71
2038	33.71	35.95	35.95
2039	29.24	31.19	31.19
2040	24.78	26.44	26.44
2041	21.81	23.26	23.26
2042	18.83	20.09	20.09
2043	15.86	16.92	16.92
2044	12.88	13.74	13.74
2045	9.91	10.57	10.57
2046...	9.91	10.57	10.57



Zero-CI Electricity Lookup Table (LUT) pathway

- Due to fuel pathway code (FPC) updates, previously certified zero-CI electricity LUT pathways remained in effect through June 30, 2025, and were retired thereafter. Accordingly, the 2025 AFPR will be the final AFPR for these zero-CI electricity LUT pathways under 2019 FPC version
- Many entities have submitted applications for new zero-CI electricity LUT pathways under the updated 2025 FPCs and have received approval. These LUT pathways became effective on July 1, 2025
- As a result, fuel pathway holders with both the retired 2019 FPCs and the new 2025 FPCs are required to submit two separate 2025 AFPRs: one covering Q1-Q2 2025 and the other covering Q3-Q4 2025

Hydrogen Lookup Table (LUT) pathway

- The hydrogen LUT pathway has been removed from Table 7-1 in the 2025 LCFS Regulation
 - All previously certified hydrogen LUT pathways remained in effect through June 30, 2025, and were retired thereafter. Accordingly, the 2025 AFPR will be the final AFPRs for these hydrogen LUT pathways
 - Four hydrogen temporary pathways have been added to Table 8 and are now available for application
 - Tier 1 CI calculator for hydrogen is now available for use in both Tier 1 and Tier 2 hydrogen pathway applications

Pathway Data Requirements and Validation Timeline

- For both Tier 1 and Tier 2 pathway applications:
 - The applications must not have an interval of greater than 3 months between the end of the reported operational data month and the date of submission
 - The validation must be completed within six months of the verification body receiving the application from CARB
 - Deemed complete quarter is the quarter in which the application is returned by the verification body to CARB after the completion of validation with a positive or qualified positive statement
 - Upon certification, the Tier 1 or Tier 2 pathway shall be available for reporting beginning in the deemed complete quarter, provided that the reporting deadline for that quarter has not passed

Modeling requirements for Dairy and Swine Manure Biomethane CI Calculator

- Lagoon Cleanout modeling
 - One lagoon cleanout annually must be modeled, starting July 1, 2025
 - The cleanout month should be each September or the actual month when it occurs
- The reported monthly average livestock population must be in compliance with any herd size limits set by any applicable local or state regulatory or other legal requirements
- The project reporting month populated in Field 2.3 must be entirely covered by the baseline reporting month populated in Fields L1.(1-6).7 in the "Manure-to-Biogas (LOP Inputs)" worksheet
- Operating Condition (OC) and Site-Specific Inputs (SSI) files:
 - If previously approved OC and SSI require modifications to the 4.0 calculator, fuel pathway holder shall contact CARB staff via email (LCFSAnnualReport@arb.ca.gov) to get approval prior to submitting the 2025 AFPR
 - If updates are required, they must be approved by CARB before implementation
- Flared Biomethane vs Flared Biogas
 - Only flared biomethane within the project boundary is eligible for modeling under Section 2.29 in "Biogas-to-RNG" worksheet
 - Biogas flared before upgrading (CO₂ removal step) is excluded, even though it has gone through cleaning steps

New Procedure for project-based applications Approval

- Submit Application
- Review for Completeness
- Validation Process
- Public Comment
- CARB Approval
- Eligible for credit generation from the approval quarter

Validation is now required for Project-based Crediting Applications

Updates on Emission Factor (EF) and Thresholds in Project-based Crediting Applications

Innovative Crude Oil Project

- The innovative method must achieve an emissions reduction of at least 1,000 metric tons CO_{2e} per year (§95489(c)(1)(E))
- For crude oil produced or transported using solar or wind-based electricity, the avoided emission factor has been updated from 511 to 329 g CO_{2e}/kW-hr (§95489(c)(1)(F))

Refinery Investment Credit Program

- Applications must demonstrate an emissions reduction of at least 10,000 metric tons CO_{2e} per year or one percent of the facility's annual pre-project emissions, whichever is less (§95489(e)(1)(J))

Measurement Accuracy

- Missing Data Substitution for **Fuel Pathways and QFTR**
 - Table 13 specifies method of data substitution based on data capture rate. Data Capture Rate is based on number of valid measurement periods (e.g., days or months) divided by total required measuring periods in the data year
 - If it is not possible to substitute the data using the methods in Table 13, the reporting entity must request approval to use **an alternate method** as early as possible but no later than 10 days after submitting their annual or quarterly report

Table 13. Missing Data Substitution Requirements

<i>Data Capture Rate</i>	<i>Data Substitution Method</i>
> 95.00%	Average of quality assured values from 30 days before and after
>90.00-95.00%	Use the 10 th or 90 th percentile of quality assured values from the current data year, whichever is more conservative
80.00-90.00%	Use the highest or lowest quality assured value from current data year, whichever is more conservative
< 80.00%	Use the highest or lowest quality assured value from the previous two years, whichever is more conservative.

Measurement Accuracy (cont'd)

- Missing Data Substitution for **Project Reports, LC/LEU reports, MCON reports**
 - Alternate methods are required in all instances where missing data exceeds six months
 - CARB will review the alternate method to determine if it meets the ± 5.00 percent accuracy. If not meeting the ± 5.00 percent accuracy, the entity must add conservative factor, which increases 5% per month of missing data (5% factor for 1st month, up to 50% for 10th month)
- **Requirements Applicable for All Applications and Reports**
 - If alternate method requests are submitted late, no reporting entity may generate LCFS credits associated with the time period for which there is missing data
 - CARB will use Table 13 to assign a conservative alternate method for use during the missing data timeframe
- **Meter Calibration Postponement**
 - Meter postponement request is only approved by CARB if reported data is accurate
 - It is limited to “units and processes that operate continuously with infrequent outages”

Sustainability Requirements Overview

Sustainability Requirements for Biomass Phase-in Timeline

(§95488.9(g))

Phase-in Timeline Requirements	2026	2028	2031
No land cleared or cultivated from 2008	X	X	X
Fuel producer maintains attestations	X	X	X
Fuel producer submits geographical shapefiles or coordinates	X		
3 rd -party certification of feedstock first gathering point (FFGP)	optional	X	X
Fuel producer maintains geographical shapefiles		X	X
Chain-of-custody requirements from FFGP to fuel producer		X	X
Environmental sustainability			X

Sustainability Requirements for New Fuel Pathway and 2026 AFPR

For existing certified fuel pathways (beginning with 2026 AFPR submitted in 2027), and New fuel pathways submitted after July 1, 2025

- Attestation letters and geographical shapefiles or coordinates must cover any biomass **planted, contracted for and harvested** *after* July 1, 2025
- Updated regulatory requirements do not apply if any of the above activities happened *prior* to July 1, 2025. CARB may request documentation during pathway review to demonstrate that such activities occurred prior to July 1, 2025
- Geographical shapefiles or coordinates of plot boundaries must be submitted with the **fuel pathway application** (after July 1, 2025) or the **annual fuel pathway report** (2026 AFPR).
- Centroid coordinates may be submitted if it is the best available data. CARB will issue instructions for additional options
- Biomass encompasses all crop-based and forestry-based materials used as feedstocks for finished fuel and/or process energy.
- [See 2025 LCFS Amendment Implementation FAQ | California Air Resources Board](#)

Sustainability Requirements for Forest-derived Biomass

Forest-derived biomass vs. Forest biomass waste

- Be forest-derived biomass sourced from forest land that meets General Eligibility Requirements identified in Section 3.1(a) of CARB's Compliance Offset Protocol U.S. Forest Projects (June 25, 2015)
 - Attestation letters
 - Geographical shapefiles
- Subject to fuel pathway carbon intensity assessment during the pathway application process
- Forest biomass waste is a specified source feedstock - not subject to sustainability requirements, but must meet the requirements in §95488.8(g)

ULSD or CARBOB Reporting

Unsustainable Biomass - §95488.9(g)(4)

- Failure to meet the sustainability requirements triggers the assignment of the ULSD (California ultra-low sulfur diesel) or CARBOB (California reformulated gasoline blendstock for oxygenate blending) carbon intensities to finished fuel developed from ineligible biomass

Palm Oil or Palm Derivatives §95482(f)

- Transportation fuel derived from palm oil or palm derivatives is ineligible for LCFS credit generation. Any volumes of transportation fuel derived from palm oil or palm derivatives reported through the LCFS Data Management System must be assigned the ULSD carbon intensity found in Table 7-1

Biomass-Based Fuels Crediting Cap

- For biomass-based diesel (BBD) that comes from Soy/Canola/Sunflower oils, LCFS credits are available for up to 20 percent of total fuel volume on per company basis
 - Not a volume cap. Does not limit overall BBD use in CA - quantities greater than 20 percent can still be reported with at least the benchmark CI
 - ✓ Quantities greater than 20 percent can also be used out of state and in other programs
 - For companies that submitted a pathway application for certification, or have a certified BBD pathway prior to July 1, 2025, crediting limit will take effect beginning January 1, 2028
- After Dec 31, 2030, no new BBD fuel pathways will be approved if medium- and heavy-duty (MHD) ZEV populations achieve 132,000 class 3-8 ZEVS or near-ZEVS reported or registered as of Dec 31, 2029

Determine LUC CI for Other Biomass Feedstock

- Pursuant to §95488.3(d)(2), if the region/biomass/fuel combination is not listed in Table 6, and no value in Table 6 is appropriate, CARB will calculate **a conservative land use change (LUC) value** based on:
 - GTAP-BIO and AEZ-EF modeling framework (§95488.3(d)(1))
 - Best available empirical data + AEZ-EF model
 - ✓ Satellite-based land cover change
 - ✓ Empirical data on biomass feedstock yields
 - ✓ Emission Factor from AEZ-EF model

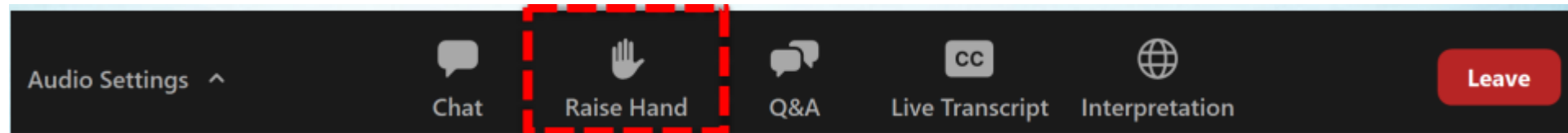
Questions?

- Process

- Questions will be taken virtually through Zoom
- One question per turn, you can raise your hand again if you have more questions
- Staff will make every effort to call on attendees in the order they raise the hand on Zoom

- Zoom Orientation

- “Raise Hand” to signal that you’d like ask a question
- Zoom phone participants may dial #2 to raise your hand
- Staff will inform Zoom phone participants when they are unmuted to ask a question
- Dial *6 to mute or unmute



Additional Questions

For additional questions, please email us below:

AFP: lcfsannualreport@arb.ca.gov

LRT: lrtadmin@arb.ca.gov

Verification: lcfsverify@arb.ca.gov