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Recommendations to the California Air Resources Board Regarding Low Carbon Fuel Standard Rulemaking

The San Francisco Public Utilities Commission (SFPUC), the San Francisco Municipal Transportation Agency (SFMTA), and the San Francisco International Airport (Airport) (together, the City), offer the following comments on the California Air Resources Board's (CARB) proposed modifications to its Low Carbon Fuel Standard (LCFS) program. A well-designed LCFS program should support local governments and transit agencies in achieving both California's greenhouse gas (GHG) reduction goals[1] and the climate action goals of local governments, especially with respect to reducing emissions via clean transportation.

The City generates LCFS credits in several ways. The SFPUC provides zero-carbon intensity (CI) electricity to its customers through a Lookup Table pathway via "book and claim" accounting.[2] SFMTA receives most of this electric energy to power and run one of the nation's largest fleets of zero-GHG light rail, trolley bus, historic streetcar, and cable car fixed guideway systems. Charging the SFMTA's electric battery buses also generates a small number of credits. The sale of these LCFS credits is an important revenue stream for the SFMTA as it looks to maintain and improve its clean transit network, particularly at a time when the SFMTA and other public transit agencies across California continue to face depressed revenues and other financial impacts due to the pandemic and still-recovering ridership levels. The SFPUC also provides zero-CI energy to the Port of San Francisco to provide shore-side charging to cruise ships, to the Airport for its AirTrain[3] service, and has begun providing EV charging at select City parking facilities.

The SFPUC, SFMTA, and Airport request the following changes and offer the following comments to the proposed amendments prior to their adoption.

1. The scope of any proposed third-party verification requirements for electricity transactions should be narrowed significantly. CARB should develop a separate and simpler reporting/verification process for electric LCFS providers that recognizes the extensive pre-existing regulation of the electric sector.

2. The cost of verification for the electric sector for public entities is too high and will deter development of this critical sector of the LCFS program.

[1] 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan).
[2] LCFS Section 95488.8(I).
[3] A fixed guideway system under CARB regulations.

3. All fixed guideway transit systems should generate LCFS credits considering the fuel efficiency of electric transportation, regardless of when the systems began operations.

4. Public Transit agencies must retain the discretion to determine how best to use LCFS proceeds from Fixed Guideway Systems to maintain California's public transit system in its time of financial challenges.

5. Each electric LCFS credit provider should be allowed to use the carbon intensity value of its electric retail seller, as calculated in the California Energy Commission's Power Source Disclosure Program, for purposes of determining the amount of its LCFS credit.

Each of these issues and recommendations are discussed below.

1. <u>The scope of any proposed third-party verification requirements for electricity transactions should be narrowed significantly. CARB should develop a separate and simpler reporting/verification process for electric LCFS providers that recognizes the extensive pre-existing regulation of the electric sector.</u>

The proposed amendments to section 95500 would add a third-party verification requirement for almost all LCFS electricity transactions.[4] The only stated reason for this verification is the rapid growth in electric usage as a component of the LCFS program and corresponding imposition on CARB staff to review.[5] Nowhere does CARB identify any irregularities in electric LCFS reporting.

While some additional verification may be needed for the electric sector, CARB's proposed approach attempts to put a "Square peg in a round hole" by shoehorning electric verification into a review process designed almost exclusively for fossil fuels, fails to recognize the extensive existing regulatory oversight of the electric industry, and could hinder electric energy LCFS usage due to the high cost of LCFS verification.

If CARB believes there is a need for verification of electric energy LCFS usage, CARB should develop a separate and simplified verification process that recognizes the pre-existing regulatory framework that governs the electric sector rather than putting in place an unnecessarily burdensome verification process. This process could be as simple as providing applicable electric bills from the retail service provider, applying the applicable carbon intensity already calculated by CARB, and at most an initial site visit to ensure that metered energy usage is matched to LCFS load. All of this data could be provided and verified without an expensive new verification process.

a. <u>Electric energy used for the LCFS program is already highly regulated, minimizing the need for additional verification.</u>

Unlike biofuels which have a long supply-chain (in some cases as far away as Brazil) or lower CI-fossil fuels such as reformulated gasoline which are manufactured as part of a multi-product

[4] Proposed Section 99500(c)(1)(D).

[5] Proposed Amendments to the Low Carbon Fuel Standard Regulation, Appendix E: Purpose and Rationale. 1/2/24 Update, Page 117.

refining process, electric energy used for the LCFS program has a far simpler and established delivery path subject to a high level of regulatory oversight.

Verifying the use of electric energy for the LCFS consists of three components – the amount of energy delivered, its carbon intensity, and ensuring that delivered energy is used for LCFS purposes.

Other than self-generation, all electric energy is delivered in California by publicly and privately owned utilities that are required to provide "revenue quality" meter data[6] to their customers and are subject to extensive regulation.

For California's investor-owned utilities, Public Utilities Code Section 770 requires the California Public Utilities Commission (CPUC), among other requirements, to:

- "Ascertain and fix adequate and serviceable standards for the *measurement of quantity*, quality, pressure, or other condition pertaining to the supply of the product, commodity, or service furnished or rendered by any such public utility"[7]
- "*Establish reasonable rules, specifications, and standards to secure the accuracy of all meters and appliances for measurements*. …"[8]; and
- *"Provide for the examination and testing of any and all appliances used for the measurement of any product*, commodity, or service of any such public utility."[9]

As California's investor-owned utilities perform billing services for Community Choice Aggregators (CCAs) and Energy Service Providers (ESPs), LCFS customers receiving service from these entities also receive the same level of verified billing. California's publicly owned electric utilities have adopted similar safeguards to ensure the accuracy of metered energy usage, and have no incentive to misrepresent reported data.

For purposes of collecting necessary taxes and fees, the State Board of Equalization requires that every electric utility in the state:

> Shall keep and maintain adequate and complete records showing... meter readings and other records as may be necessary for the accurate determination of the kilowatt-hours of electrical energy generated, purchased, consumed, or sold in this state.[10]

California's electric retail providers are subject to additional regulations requiring that metered data be accurately reported. This includes retail seller filings to the California Energy Commission for purposes of its Power Source Disclosure (PSD) program which must be either independently verified or attested to by the governing body if a publicly owned utility.[11] Electric utilities reporting to the federal Energy Information Administration, including customer sales,

[6] American National Standard for Electric Meters, Code for Electricity Metering for Accuracy, Section 5.1.2.2 says "the performance of all watthour meters is considered to be acceptable when the percent registration is not less than 98% or more than 102% as determined in Section 5.1.5."
[7] Public Utilities Code Section 770(b), emphasis added.
[8] Public Utilities Code Section 770(d) emphasis added.
[9] Public Utilities Code Section 770(e) emphasis added.
[10] California Code of Regulations, Title 18, Division 2, Chapter 5. Article 1, Regulation 2343(b)(2)
[11] Public Utilities Code Section 398.4 to 398.6.

are subject to civil or criminal penalties for misrepresentation.[12] The California Independent System Operator (ISO) also requires electric retail sellers to meet strict metering requirements.[13]

The second component of LCFS electric energy usage is its carbon intensity. CARB has already addressed this issue through its use of either a standardized state-wide CI for electric energy or use of the Western Renewable Energy Generation Information System (WREGIS) to track the environmental attributes of claimed electric generation under "book and claim" accounting. The California Energy Commission (CEC) has found that WREGIS meets the requirements of Public Utilities Code section 399.21(a)(1), which requires a system "capable of independently verifying that electricity earning the credit is generated by an eligible renewable energy resource and can ensure that renewable energy credits shall not be double counted ..."[14] As explained further below, the CEC's Power Source Disclosure program also meets CARB's requirements for accurately calculating the CI intensity of provided electric energy.

The third component of LCFS electric energy usage is to ensure that reported generation is used for LCFS purposes, a component that CARB recognizes is not an issue. Staff's Initial Statement of Reasons (ISOR) notes:

> *There is little change of operation from reporting period to reporting period thus reducing the benefit of annual site visits*. If a verification body conducts a site visit as part of verification services and issues a positive verification statement in year one, *there is no or little risk to the integrity of the LCFS program to allow for less intensive verification services* without a site visit in the annual verifications for the following two years.[15]

b. <u>CARB should not attempt to shoehorn electric usage verification into an inapplicable verification system focused almost exclusively on fossil-fuel usage.</u>

Instead of using the existing verification tools identified above, CARB attempts to shoehorn electric usage verification into an inapplicable verification system focused exclusively on fossil-fuel usage.[16] Other than adding electric LCFS to this verification requirement,[17] this results in numerous confusing, onerous, and in many cases inapplicable requirements upon electric LCFS providers.

As noted above, publicly and privately owned utilities already provide metered energy usage to LCFS providers for which the utility is responsible for ensuring its accuracy and calibration. Extending the verification requirement to electric LCFS providers duplicates this process by making them subject to the requirements of Section § 95491.2, Measurement Accuracy and Data

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[12] EIA guidelines on utility reporting, including sales are available at https://www.eia.gov/survey/form/eia_861/instructions.pdf. As noted in the guidelines: "This report is mandatory under Title 15 U.S.C. §772(b)... Title 18 U.S.C. §1001 makes it a criminal offense for any person knowingly and willingly to make to any Agency or Department of the United States any false, fictitious, or fraudulent statements as to any matter within its jurisdiction."

[13] California ISO metering requirements for California's electric system can be found at: https://www.caiso.com/market/Pages/MeteringTelemetry/Default.aspx.

[14] Public Utilities Code Section 399.21. The CEC approved its RPS Eligibility Guidebook in Resolution 13-0430-4.

[15] Purpose and Rationale, p. 119-120, emphasis added.

[16] Section 99500(c)(1)(A), (B), and (C).

[17] Proposed Section 99500(c)(1)(D).

Provisions.[18] This section now requires electric LCFS credit generators to be responsible for the "calibration" and "accuracy" of the "Measurement devices that provide data used to calculate LCFS credits."[19] In reality, for electric LCFS providers, the only applicable measurement device is the electric meter itself. Generally, this meter is under the control of the electric utility, not the LCFS provider. Any attempt by a LCFS provider, who did not control the meters, to "calibrate" the meter would constitute tampering which is a misdemeanor under California law.[20] This section does not include a waiver provision, only an inapplicable deferral provision.[21]

Paradoxically, this regulation allows up to a 5% error range in measurement accuracy,[22] two and a half times the 2% error range required of electric utility "revenue quality" meters.[23]

Thus, the proposed regulations would now require LCFS electric providers to duplicate the same measurement, calibration, and accuracy requirements that California's publicly and privately owned utilities already provide.

Indeed, in several portions of the regulation it appears that CARB already considers metered utility data alone as sufficient to meet verification requirements. The regulation's definition of "Site-specific Data" and "Site-specific Input" requires that this data "must be measured, metered or otherwise documented, and verifiable." For "grid electricity" this requirement "must be documented by invoices from the utility."[24] Even within the monitoring requirements required of the verification process, it appears that "copies of monthly utility bills" are acceptable as records.[25] As part of "site visits" (discussed further below) it appears verifiers only need to focus on "measurement accuracy requirements" only for those "devices that do not meet criteria for financial transactions"[26] (i.e. a utility's revenue quality meter.)

In addition to creating a largely duplicative process for verifying metering access, the proposed verification requirements would also require "site visits" by the verifiers. As the regulations state:

> At least one lead LCFS verifier.... must...annually visit each facility; and, if different from the fuel production facility, the central records location for which the records supporting an application or report subject to verification are submitted.[27]

In the case of EV charging, each charger counts as a "fuel production facility" potentially requiring site visits to tens if not hundreds of EV charging facilities located throughout a city.

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[18] Appendix A-1: Proposed Regulation Order (Proposed Sections for Amendments).

[19] Section § 95491.2,(c)(1)(G),(H) and (I).

[20] California Penal Code, Section 498.

[21] Section § 95491.2(c)(1)(K).

[22] Ibid.

[23] American National Standard for Electric Meters, Code for Electricity Metering for Accuracy, Section 5.1.2.2 says "the performance of all watthour meters is considered to be acceptable when the percent registration is not less than 98% or more than 102% as determined in Section 5.1.5."

[24] LCFS Regulations Section 95481.

[25] LCFS Section 95491.1(a)(1)E).

[26] LCFS Section 95501(b)(3)(A)(5).

[27] LCFS Section 95501(b)(3).

For the SFMTA's transit system, this could include numerous site visits along the SFMTA's 71-mile light-rail system and numerous additional site visits for the SFMTA's overhead catenary street bus system. For each site visit, the regulations specify a number of requirements the verifier must carry out as part of the visit, many of which duplicate existing utility meter accuracy requirements.[28]

The site-visit also includes a requirement to:

> Directly observe production equipment, confirming diagrams for processes, piping, and instrumentation; measurement system equipment; and accounting systems for data types determined in the sampling plan to be high risk.[29]

Once again, while such requirements may be appropriate for complex fossil-fuel production facilities such as refineries, these requirements are not needed where the only energy provided is being done through a utility meter.

c. <u>CARB's proposed methods to minimize the reporting burden on electric LCFS providers are insufficient.</u>

In response to concerns described in the section above, CARB staff did state it will work to modify the verification process to attempt to accommodate the unique aspects of electric LCFS providers. Unfortunately, any guidance documents CARB prepares cannot supersede the actual regulatory language, which in the case of verification is exceedingly proscriptive and leaves little flexibility. This process will be exacerbated by the existing qualification process for verifiers which is focused almost exclusively on fossil-fuel usage and is not proposed to be updated to require electric industry expertise.[30]

CARB staff did propose electric LCFS providers have the opportunity to be subject to "less intensive verification" for the two years following a full verification.[31] However, this still requires electric LCFS providers to go through the costly verification process once every three years. Even with this option, electric sector verification costs (as discussed below) will still exceed five billion dollars over the LCFS timeframe studied. There are also additional limitations and conditions on the ability of electric LCFS providers to use this option.[32]

d. <u>If CARB proceeds with its existing proposal, at a minimum it should make the following changes and not make the verification requirement applicable until the 2024 reporting year.</u>

CARB's attempts to minimize verification costs by applying a "less intensive verification" process, while steps in the right direction, are fundamentally flawed in continuing to use a process based on fossil-fueled transactions.

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[28] LCFS Section 95501(b)(3)(A)(1) to (6).

[29] LCFS Section 95101(b)(3)(A)(5).

[30] This can be seen by examining CARB's guidance document on the verification process (Low Carbon Fuel Standard Annual Reporting and Verification User Guide Version v 1.5) and CARB's requirements for verifiers (LCFS Regulation Section 95303.) For example, there is no requirement for any electric energy expertise for verifiers.

[31] Proposed Amendments Section 95501(h).

[32] Proposed Amendments Section 95501(h)(1)-(5).

If CARB nonetheless continues to use the fossil-fuel based verification requirements to verify electric LCFS usage, at a minimum it should consider the following modifications.

- Significantly reduce reporting requirements for public entities, such as public transit agencies. These entities have little or no incentive to misrepresent their reporting. Similar to the CEC's attestation process for the Power Source Disclosure program, this could consist of self-attestation by the public agencies governing board or the use of internal auditing processes.
- Extend the verification process to a longer time-period and eliminate the annual verification requirement.
- After initial verification, only require a subsequent verification if reported LCFS credits increase by more than 25% as a result of a reporting entity adding new Fueling Supply Equipment.
- Exempt smaller LCFS credit generators (perhaps 500 credits or less).

CARB should also clarify that any verification begins no earlier than 2025 for reporting of 2024 transactions. For public agencies with long lead times to set up contracts with new counterparties, it may not be feasible to hire a verification body in time for an August 31, 2024 reporting of 2023 LCFS data.

2. <u>The cost of verification for the electric sector is too high and will deter development of this critical sector of the LCFS program.</u>

As shown above, a significant portion of CARB's proposed verification requirements duplicate existing electric sector regulatory oversight or could be included into a streamlined CARB verification process.

The Initial Statement of Reasons estimates additional verification costs for the electric and hydrogen sectors at $5.5 billion over the LCFS timeframe studied.[33] This estimate is low as it appears to include only the direct costs of verification and not the internal costs that electric LCFS providers will incur in acquiring and contracting for LCFS verifiers and responding to their informational requests.[34]

This latter issue is a particular problem for public agencies that have local hiring and additional workforce requirements in their contracting processes that make it difficult to hire from the relatively small list of approximately 30 CARB-accredited verification bodies.[35] This process will only be exacerbated by the sudden influx of newly-regulated electric entities chasing after this small number of verifiers.

[33] ISOR, p. 69 estimates incremental verification costs at $5.5 billion, supposedly after adjusting for "less intensive" verification. This figure is not broken down by sector or in cost per MWh. The SRIA, Appendix C, p. 21 estimated incremental verification costs to the electric sector at $5.88 billion.

[34] The SRIA, at p. C-21 shows that every dollar spent on verification by the "Electric power generation, transmission, and distribution" sector (NAICS Code; 2211) results in a dollar being transferred to "Management, Scientific, and Technical Consulting Services" (NAICS Code 5416) incorrectly implying that electric utilities incur no internal cost in meeting the verification standards.

[35] As noted above, one solution to this problem would be to allow public entities to self-attest to the accuracy of their filings, as the CEC does for its Power Source Disclosure program` or use internal auditors for verification.

The excessive verification costs applied to the electric sector will hinder the development of the LCFS market, both due to the cost and administrative burden of acquiring a verifier. It is critical for CARB to seek to minimize these costs to provide more revenues for incentivizing further electrification efforts.

Despite repeated requests CARB has failed to provide any of the calculations, worksheets, or assumptions that went into developing its cost estimates for verification that would make it possible to determine compliance costs depending upon the size and type of entity.

The only estimate provided by CARB calculated LCFS verification costs for the electric sector of $6/MWh. This estimate is a composite figure for all entities and is not broken down by size or type of electric service (e.g. fixed guideway, forklifts, EVs.)[36] Thus, verification costs for smaller entities are likely significantly understated even taking into account the "less intensive" verification process.

This level of cost could prove a significant deterrent for both small and large LCFS credit providers. For example, the SFPUC recently began generating LCFS credits from a small number of electric vehicle (EV) charging stations for employees at a public health clinic. The SFPUC aims to grow this program offering over time, but it may not be able to establish and scale the program successfully as any amount of third-party verification costs significantly outweigh the credit generation potential for the first several years of the program.

Even for larger credit generators, such as the SFMTA's mass transit system, which generates about 15,000 LCFS credits per year, the costs of verification would be significant. It currently takes about 3 MWh of RPS-eligible power (3.27 MWh) to generate one LCFS credit for SFMTA or about $22/MWh in revenue at a price of $70 to $80 per credit.[37] CARB's estimated compliance cost of $6/MWh would thus constitute almost one third of total LCFS revenues.

3. <u>All fixed guideway transit systems should generate LCFS credits considering the fuel efficiency of electric transportation, regardless of when the systems began operations.</u>

As discussed in SFPUC/SFMTA and other transit agency letters submitted during the pre-rulemaking phase,[38] the current LCFS regulation section 95486.1 arbitrarily limits the number of credits earned by fixed guideway transit systems that were built before 2011. This distinction – applying the Energy Economy Ratio (EER) multiplier to recognize the efficiency of electric transportation relative to diesel-powered transportation *only* to newer systems – is not made for any other fuel pathway technology in the regulation as proposed. The result is to understate the amount of LCFS credits existing transit systems receive by a factor of at least three times (3.1, 3.3, or 4.6 times depending on the type of system).[39] This multiplier reflects that public transit systems help take drivers off the road and help reduce Vehicle Miles Traveled (VMT).

The current treatment of these older transit systems conflicts with CARB's goals laid out in its 2022 Scoping Plan to significantly reduce VMT. As the 2022 Scoping Plan notes:

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[36] SRIA Appendices Appendix A: Methodology for Estimating Costs.

[37] Based on SFPUC/SFMTA 2022 Q1 to Q3 data and the then current credit price of $70 to $80.

[38] See SFPUC/SFMTA Recommendations Regarding Low Carbon Fuel Standard Rulemaking (November 7, 2023) submitted to CARB as part of its pre-rulemaking request for comments.

[39] LCFS Regulation Table 5. EER Values for Fuels Used in Light- and Medium-Duty, and Heavy-Duty Applications.

> Transforming the transportation sector goes beyond phasing out combustion technology and producing cleaner fuels. Managing total demand for transportation energy by reducing the miles people need to drive on a daily basis is also critical as the state aims for a sustainable transportation sector in a carbon neutral economy.[40]

After recognizing that, the 2022 Scoping Plan adds:

> The transit industry…was significantly impacted during the lockdown months and has struggled to recover; ridership only averages two-thirds of pre-pandemic level and service levels also lag behind.[41]

The 2022 Scoping Plan recognizes the importance of adequate funding of public transit, stating as a "Strategic Objective" the need to "Invest in making public transit a viable alternative to driving by increasing affordability, reliability, coverage, service frequency, and consumer experience."[42]

Applying the EER multiplier to all transit would increase revenues available to transit agencies (2025-2046) from $840 million[43] to about $2.5 billion.[44] While providing a critical incremental jolt of revenue to transit agencies, this change would only represent about 2% of the total LCFS market of $120 to $150 billion during this time-period.

For the SFMTA, where most of the fixed guideway systems are pre-2011, including light rail (3.3 multiplier), electric trolleys, cable cars, and street cars (3.1 multiplier), the SFMTA would increase revenues from its fixed guideways to support transit operations from about $1.6 to $4.8 million/year. [45]

There is no engineering justification for this disparate treatment. Instead, it appears to be the results of the delay in the start of the LCFS regulation. Despite CARB Board directives in both 2009 (Resolution 09-31) and 2011 (Resolution 11-39) that staff consider the inclusion of mass transit in the LCFS program, implementation did not occur until 2016.[46] During the rulemaking some parties objected to the inclusion of mass transit contending that it was not included in the 2010 baseline used to set the starting point against which LCFS-eligible reductions would be calculated.

As CARB concluded:

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[40] 2022 Update to AB 32 Scoping Plan (AB 32 Scoping Plan), p. 192. 2022 Scoping Plan Update (ca.gov)
[41] Ibid, p. 192-193.
[42] Ibid, p. 194.
[43] SRIA, p. 66.
[44] This assumes all transit agencies would qualify for a 3.3 multiplier as the vast majority of fixed guideway infrastructure, other than incremental expansions, occurred before 2011. CARB staff can refine this number as necessary.
[45] Assuming early-2023 LCFS credit prices at 2023 service levels.
[46] 2015 LCFS Rulemaking Final Statement of Reasons.
https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2015/lcfs2015/fsorlcfs.pdf

> Early adopters of lower carbon intensity fuels, such as electricity, should not be penalized by excluding them from LCFS credit generating. Instead, they should be incented to continue and expand such applications.[47]

This conclusion is consistent with, and supported by, CARB's statutory requirement to:

> Ensure that entities that have voluntarily reduced their greenhouse gas emissions prior to the implementation of this section receive ***appropriate*** credit for early voluntary reductions.[48]

However, while recognizing these early voluntary GHG reductions, CARB stopped sort of giving them full credit, stating that;

> The LCFS credit formulas for all electric forklifts and existing electric fixed guideways *do not include credits for fuel displacement, which substantially reduces the number of credits these electrical applications could generate*. In contrast, the LCFS credit formula for new electric fixed guideway system does have the fuel displacement credits. This approach addresses the commenter's concerns related to allowing sources to generate credits without including them in the 2010 baseline.[49]

Public transit should not receive artificially low credit for its early actions to reduce GHG emissions, particularly if it results in reduced public transit levels and increasing VMT.

As there is no difference in fuel efficiency associated with the year in which these transit systems were built, the EER multiplier should apply to older transit systems as well as newer ones to more accurately reflect the quantity of high carbon intensity fuel displaced by their use. In addition, there is ample reason to fully support and encourage clean transit as SFMTA and other transportation agencies across California face considerable financial uncertainty as ridership struggles to recover from pre-pandemic levels. Continuing to support transit agencies financially is necessary to maintain the emissions-reducing benefits that these systems provide.

4. Public Transit agencies must retain the discretion to determine how best to use LCFS proceeds from Fixed Guideway Systems to maintain California's public transit system in its time of financial challenges.

Under the current LCFS regulations, there are no restrictions on the use of LCFS proceeds from Fixed Guideway Systems. As the SFPUC has previously noted to CARB, this exclusion:

> …[R]eflects that the operators of these systems have separate obligations to reduce GHG-emissions. Almost all operators of Fixed Guideway Systems are government agencies…As public agencies, transit operators are not-for-profit, overseen by elected and appointed public officials, and mandated to promote public transit electrification. ...
>
> The existing regulations, however, provide public transit agencies the flexibility to decide how LCFS proceeds should be used to achieve California's GHG-reduction goals,

[47] 2015 LCFS Rulemaking Final Statement of Reasons, page 843.
[48] Health & Safety Code Section 38562(b)(3) (emphasis added).
[49] 2015 LCFS Rulemaking Final Statement of Reasons, page 843 (emphasis added).
https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2015/lcfs2015/fsorlcfs.pdf

> whether it is investment in vehicles, energy infrastructure, or efforts to increase or sustain ridership comfort and safety, outreach, or other activities. CARB should respect and defer to these public officials regarding the best use of LCFS proceeds…[50]

Under the proposed regulation, it appears that CARB staff has inadvertently eliminated the discretion provided to these public agencies and their governing bodies. Although incorrectly described as "No substantive changes to existing requirements were made,"[51] the proposed regulations would now require that LCFS revenues from Fixed Guideway Systems be used for "transportation electrification" purposes.[52]

In proposing this change CARB lists several subsections of the current regulation[53] that cross-reference a requirement (Section 95491(d)(2)) that LCFS proceeds be used to promote EV development in California. Notably absent from this list is Section 95483(c)(3) which covers Fixed Guideway Systems and specifically contains no cross-reference to this spending requirement.[54]

Somewhat mitigating this incorrect classification is that CARB has expanded the use of LCFS proceeds from a limited use for "EV development" to a broader use for "further transportation electrification efforts."[55]

The SFPUC supports this change provided it allows public transit agencies to broadly use LCFS proceeds in any way that benefits electric transportation, including as recognized in the 2022 Scoping Plan, the "strategic objective" to "Invest in making public transit a viable alternative to driving by increasing affordability, reliability, coverage, service frequency, and consumer experience."[56] This is consistent with the Standardized Regulatory Impact Assessment's (SRIA's) description of the use of LCFS proceeds to meet operating expenses where "the transit agency is the generator of credits, and thus the LCFS credits will represent cost savings to the transit agency and effectively reduce the price of electricity used to power battery-electric buses."[57] Allowing transit operators to retain this discretion and flexibility in spending will be critical as they continue to face on-going financial challenges.

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[50] SFPUC Comments on the CARB Staff's proposed Low Carbon Fuel Standard Guidance 20-03: Electricity Credit Proceeds Spending Requirements (April 14, 2020).

[51] Purpose and Rationale, page 110.

[52] Proposed Amendments Section 95491(e)(5). Uses of Electricity Credit Proceeds.

[53] According to CARB's Purpose and Rationale Document, page 110, "The general annual reporting requirements for electricity credit proceeds cross-referenced by several subsections in 95483 (i.e., subsections 95483(c)(1)(A), 95483(c)(1)(A)6, 95483(c)(1)(B), 95483(c)(2)(C), and 95483(c)(4)) were previously listed as a subsection of 95491(d), which is "Specific Reporting Requirements for Quarterly Fuels Transactions Reports."

[54] Section 95483(c)(3) only requires that paragraphs 3 and 5 of Sections 95491(3) apply to Fixed Guideway Systems. Neither of these paragraphs restrict the use of LCFS proceeds.

[55] Proposed Amendments Section 95491(e)(5). Uses of Electricity Credit Proceeds.

[56] 2022 Scoping Plan, p. 194.

[57] SRIA, p. 57.

5. **Each electric LCFS credit provider should be allowed to use the carbon intensity value of its electric retail seller, as calculated in the California Energy Commission's Power Source Disclosure Program, for purposes of determining the amount of its LCFS credit.**

In its rulemaking CARB proposes to update the carbon intensity of electric energy to ensure that it is accurate and reflects the latest available data.[58]

For electric energy used directly as a transportation fuel or for hydrogen production, electric LCFS providers currently have two main choices for determining carbon intensity.[59] They can either use the single state-wide average as calculated by the CEC[60] or they can use a zero-CI Lookup Table Pathway where they can document that their electric energy is sourced from zero-GHG RPS-eligible renewable resources.[61]

CARB should add a third option to this choice, allowing electric LCFS providers to use the CEC's verified GHG emissions from the Power Source Disclosure reports of the electric retail seller that provides them with electric service. This third option would use the same CEC data used by CARB to determine the state-wide average, but assign it on a more granular level to each electric LCFS provider. It would also allow electric LCFS providers to use their retail seller's Power Source Disclosure reports to document a "low-CI" energy portfolio through the simplified use of CARB's Lookup Table Pathway. Allowing electric LCFS providers to use this data would result in even more accurate reporting of GHG emissions, encourage electric LCFS providers to seek out providers with lower GHG emissions, send better price signals, and avoid distortions in GHG reporting that could influence future investment decisions in LCFS infrastructure.

CARB's last revisions to its LCFS program preceded the CEC's implementation of AB1110 (Chapter 656, Statutes of 2016) effective for calendar year 2020 reporting. AB1110 required the CEC to:

> Adopt a method, in consultation with the California Air Resources Board (CARB), for calculating the GHG emissions intensity corresponding to each purchase of electricity by a retail supplier to serve its consumers; and in doing so; … Rely on the most recent verified greenhouse gas emissions data…[62]

According to Assemblymember Phillip Ting (AB1110's author), his legislative intent was:

> …[T]hat the CEC's approach should be consistent, to the extent practicable, with the approach taken by ARB under its existing programs including the Mandatory Greenhouse Gas reporting requirements, Cap-and-Trade, as well as the CEC's Power Source

[58] Initial Statement of Reasons, p. 35.
[59] Electric LCFS providers could also use the more lengthy, complex, and difficult process of a Tier 2 Pathway application.
[60] 2024 Update: California Average Grid Electricity Used as a Transportation Fuel in California and Electricity Supplied under the Smart Charging or Smart Electrolysis Provision. https://ww2.arb.ca.gov/resources/documents/lcfs-pathways-requiring-public-comments?utm_medium=email&utm_source=govdelivery
[61] LCFS Section 95488.8(i).
[62] Public Utilities Code Section 398.4(k)(2)(A) and (C).

> Disclosure Program. These programs include protocols for reporting data on GHG emissions and allowing specific adjustments to compliance obligations. By conforming its approach to the ARB programs, the CEC would ensure consistent treatment amongst GHG programs administered by the state.[63]

As implemented by the CEC, the CEC now provides each retail seller of electric energy's carbon intensity in lbs/MWh, through annual Power Source Disclosure reports.[64]

The adopted CEC regulations essentially mirror CARB's Mandatory Reporting Requirements for GHG reporting. This includes: prohibiting the use of unbundled RECs in calculating GHG emissions; ensuring electric energy is claimed only once for GHG-reporting purposes; consistent GHG-reporting of firmed and shaped resources and energy supplied by Asset Controlling Suppliers;[65] and using either MRR-reported GHG emission factors for electric energy acquired from specified sources, or using CARB's default emission factor (941 lbs/MWh) for "unspecified power." These results must in turn be either independently verified according to processes established by the CEC, or, in the case of public entities, attested to their veracity by their governing boards. The CEC retains its authority to review these filings, identify discrepancies and institute enforcement actions for misrepresentation or non-compliance.[66]

As a result of AB1110's implementation, CARB should allow electric LCFS providers to use the corresponding carbon intensity of their individual retail supplier in calculating the amount of their LCFS credits.

CARB has already validated the AB1110 methodology and its use of this CEC data to calculate state-wide electric sector average GHG emissions[67] used for LCFS transportation purposes. Given the importance of electric energy in meeting CARB's LCFS and GHG reduction goals, it makes sense that CARB should use the best, most accurate and granular data for determining electric sector GHG emissions rather than use a single state-wide average that distorts GHG reporting.[68]

The use of the CEC Power Source Disclosure report methodology is consistent with the 2022 Scoping Plan's goal to coordinate with other state initiatives to reduce GHG emissions.[69] This

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[63] ASSEMBLY DAILY JOURNAL, 2015–16 REGULAR SESSION, p. 6588 (August 31, 2016).

[64] Modification of Regulations Governing the Power Source Disclosure Program Effective May 4, 2020 (Rulemaking 20-PSDP-01, CEC Document #: TN 232986).

[65] Out-of-state entities such as Bonneville Power Administration (BPA) that operate multiple plants that provide power to California.

[66] Ibid. See also Power Source Disclosure - AB 1110 Implementation Rulemaking Initial Statement of Reasons (Document ID #: 229688, September 6, 2019) and Final Statement of Reasons (Document ID: #232946-2, May 8, 2020) in CEC Docket 16-OIR-5.

[67] Public Utilities Code Section 398.4(k)(2)(B).

[68] CARB has already recognized this need for granularity in the geographic distribution of oil production, having developed a distinct carbon intensity for each of California's 158 oil fields and basins (Proposed Amendments, Appendix F, Table 1: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2024/lcfs2024/appf.pdf)

[69] For example, the 2022 Scoping Plan "includes careful consideration of, and coordination with, other state agencies, consistent with Governor Gavin Newsom's whole of government approach to tackling climate change"

includes California's goal of reaching 100% GHG-free energy by 2045. Up to 40% of this energy may come from non-RPS-eligible GHG-free resources[70] and these resources should be counted toward determining the carbon intensity of a retail seller's electric portfolio.

Allowing electric LCFS providers to claim the GHG intensity of their retail seller would provide additional flexibility for them to acquire energy portfolios of lower-CI fossil-fueled energy and non-RPS zero-GHG resources. This flexibility would provide additional incentives for electric LCFS providers to minimize the carbon intensity of their electric energy. It would also incent retail sellers of electric energy to increase their offerings of lower-CI or zero-CI electric portfolios helping California meet its SB100 goals. Even today not all retail sellers provide an energy offering that meets CARB's zero-CI standards.

Third, CARB's use of a single state-wide number for the carbon intensity of electric energy masks significant differences between where in California the electric energy is consumed and who provides the energy.

Table 1 below shows the carbon intensity GHG emission profile for all of California's electric retail sellers that sell over two million (2,000,000) MWh per year as calculated by the CEC. Collectively, these retail sellers represent 86% of California's total retail electric sales.[71]

As can readily be seen in the table, the use of a state-wide average by CARB (456 lbs/MWh in 2021) for determining the amount of LCFS credits that can be claimed by electric LCFS providers masks an actual range of carbon intensity from a low of 0 lbs/MWh to a high of 1,167 lbs/MWh or almost two and a half times the statewide average. Under this "one-size-fits-all" approach, an electric LCFS provider being served by a retail seller with low GHG emissions does not receive any additional credit. Conversely, an electric LCFS provider being served by a retail seller with high-GHG emissions is receiving more LCFS credits than they should receive.

The City's energy providers – CleanPowerSF and Hetch Hetchy Power are both disadvantaged under this approach and do not receive full credit for the zero or low CI energy they provide. CleanPowerSF's "Green" portfolio's GHG emissions are only 82 lbs/MWh, almost two thirds less than the statewide average while its "Super Green" portfolio has GHG emissions of 0 lbs/MWh. Both Hetch Hetchy Power's General and Premium Service also have GHG emissions of 0 lbs/MWh.[72]

Accordingly, CARB should include the carbon intensities of electric retail sellers, as a "Lookup Table Pathway" for electric LCFS providers to use in determining their carbon intensity.

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including SB100 which "provided critical inputs and data points for this plan" and "lays the foundation for even closer coordination among and between state agencies to put the plan into effect." (2022 Scoping Plan, p. 6-7).

[70] SB100 (Chapter 312, Statutes 2018) added Public Utilities Code 454.53 setting a goal of achieving 100% GHG-free energy by 2045 but not changing the existing 60% by 2030 RPS requirement.

[71] This data is available in sortable format from the CEC's website; https://www.energy.ca.gov/sites/default/files/2023-01/2021_Power_Content_Labels_sortable_table-Updated_01-31-2023_ADA.xlsx

[72] 2021 Power Source Disclosure Reports for each entity.

CARB should also consider replacing its CA-GREET model, used for determining the CI of electric energy used as an input to produce LCFS fuels, with the CEC's state-wide and individual retail seller carbon intensities. It is unclear why CARB has two different methodologies for calculating state-wide GHG emissions, while the use of CA-GREET's state-wide average (without consideration of the actual retail energy supplier) could distort the locational choices of new LCFS fuel producers as only the cost, and not the GHG emissions of their service provider, would influence their investment decisions.

At a minimum, CARB should allow all zero-GHG resources to be included in the "Lookup Table Pathway" and eligible for "book and claim" accounting if they are tracked through WREGIS. As previously noted, this is consistent with California's requirements to transition to a 100% GHG-free electric sector.

Conclusion

The SFPUC, SFMTA, and Airport thank the Board for considering these recommendations. Please contact the following staff with any questions.

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Table 1: Carbon Intensity of California's Largest Electric Providers[73]

Electric Provider (Rate Option)	Sales (MWh)	GHG Intensity (lbs CO2e /MWh)
Anaheim, City of	2,073,416	**1167**
Constellation NewEnergy, Inc.	7,296,478	**835**
Riverside Public Utilities - General Power Mix	2,082,522	**809**
Calpine Energy Solutions, LLC	4,252,371	**756**
Direct Energy Business, LLC	2,767,084	**729**
Silicon Valley Power - Non-Residential	3,677,200	**650**
LADWP Power Mix	20,619,884	**609**
Southern California Edison	56,106,664	**580**
Clean Power Alliance of Southern California - Lean Power	2,311,125	**566**
Imperial Irrigation District	3,515,689	**565**
East Bay Community Energy - Bright Choice	5,342,524	**564**
San Diego Gas & Electric Company	11,298,590	**504**
Clean Power Alliance of Southern California - Clean Power	5,603,480	**501**
Central Coast Community Energy - 3CE Choice	4,616,178	**494**
Turlock Irrigation District	2,224,430	**493**
Modesto Irrigation District	2,640,606	**473**
SMUD - General Mix	9,504,054	**462**
2021 CA Utility Average and Total Retail Sales	237,870,520	**456**
Shell Energy North America (US), L.P.	5,484,204	**319**
San José Clean Energy - GreenSource	3,660,758	**162**
Sonoma Clean Power Authority - CleanStart	2,193,209	**130**
Pacific Gas and Electric Company - Base Plan	33,085,648	**98**
CleanPowerSF - Green	2,725,268	**82**
Marin Clean Energy - Light Green	5,143,729	**75**
Silicon Valley Clean Energy - Green Start	3,617,472	**18**
Peninsula Clean Energy Authority - ECOplus	3,030,741	**5**
Clean Power Alliance of Southern California - 100% Green Power	2,801,513	**0**

[73] https://www.energy.ca.gov/sites/default/files/2023-01/2021_Power_Content_Labels_sortable_table-Updated_01-31-2023_ADA.xlsx