



Sent via email September 13, 2017

Re: Low Carbon Fuel Standard: Electricity as a Transportation Fuel

Dear Mr. Wade:

CalETC is a non-profit association promoting economic growth, clean air, fuel diversity and energy independence, and combating climate change through the use of electric transportation. CalETC is committed to the successful introduction and large-scale deployment of all forms of electric transportation including plug-in electric vehicles, transit buses, port electrification, off-road electric vehicles and equipment, and rail. Our board of directors includes: Los Angeles Department of Water and Power, Pacific Gas and Electric, Sacramento Municipal Utility District, San Diego Gas and Electric, Southern California Edison, and the Southern California Public Power Authority. Our membership also includes major automakers, manufacturers of zero-emission trucks and buses, and other industry leaders supporting transportation electrification.

CalETC supports the Low Carbon Fuel Standard (LCFS), a program that has been successful thus far in reducing the carbon intensity of California's transportation fuel pool. Given the near-total dependence on oil in the transportation fuels sector, the LCFS is essential to California's efforts to both diversify the transportation fuels sector and reduce emissions from carbon-based fuel.

We appreciate this opportunity to provide feedback to CARB staff on proposed modifications to some of the electricity-related provisions of the LCFS.

1. Commenters at the August 7 workshop requested that an automaker who makes EVs should be able to get the residential LCFS credits.

CalETC opposes this proposal for many reasons, including the following:

- a. The LCFS should remain a fuels regulation. For regulatory consistency, the credits should remain with the primary fuel-providing entity that is making the investments to bring the cleaner fuels to the marketplace to support the LCFS regulation. For electricity, the utility and its ratepayers are the primary entities making investments to provide ever-cleaner electricity and the related grid modernization. Therefore, the credits should remain, as much as possible, with the electricity distribution utility and its ratepayers.
- b. Grid impacts should be considered. Utilities and ratepayers bear the costs associated with electricity production and grid distribution upgrades for residential charging. Therefore, the utilities and all their ratepayers should see as many benefits as possible from the transportation electrification load growth. In addition, not all EVs have the same impact on the grid. Some EVs charge at higher levels (e.g., 9.6kW or 19.2 kW) relative to other EVs, which can cause more grid issues and upgrades that are paid for through normal ratepayer rates. Example: When SMUD did its grid impact analysis, the

average EV caused SMUD \$100 per vehicle of impact, while a single EV charging at 19.2kW caused nearly \$2,000 worth of grid impacts.

- c. CARB has no authority to compel automakers to return the value of the LCFS credits back to EV drivers. This is a very valuable LCFS program element (e.g., provisions on utilities by the CPUC), and supports the state's commitment to zero-emission vehicles.
 - d. Utilities are required to use the credits for significantly more than just compensating the individual vehicle owner. EV outreach and education and EV-specific charging rates, that utilities are required to do as part of LCFS, help create market awareness, promote lower-cost electricity fuel delivery, reduce grid impacts and peak electricity usage. All of these actions support the state's overall GHG reduction and renewable electricity goals.
 - e. Brand-neutral LCFS programs from utilities have many benefits compared to automaker-specific LCFS programs. As noted above, utilities do much more than just provide a rebate or on-bill credit with LCFS credit value. These programs benefit all EV drivers and all utility customers even if they don't have an EV or don't get a LCFS financial reward. Automaker-specific LCFS programs won't bring these associated benefits.
 - f. Equity issue. Long-range EVs with large battery packs are inherently more expensive than short-range EVs with one-third the battery size. This means that those who can afford these EVs will drive more annual miles and earn more LCFS credit value compared to less expensive lower-range EVs. In other words, more incentives go to those who can afford these EVs or to the automaker who makes them. Additionally, as mentioned earlier, long-range EVs with big battery packs typically charge at 9 or 19 kW which means the utility and its ratepayers must pay more for the larger grid upgrades needed to support this level of charging. This impacts everyone's electric bill.
2. CARB staff proposes to increase the LCFS overall requirement from a 10 percent carbon-intensity reduction requirement in 2020 to an 18 percent carbon-intensity reduction requirement in 2030.

CalETC supports this proposal. Our recommendation is supported by modeling conducted by ICF International in a 2017 report called "Post-2020 Carbon Constraints: Modeling LCFS and Cap-and-Trade."¹

3. CARB staff proposes to update ELC002 1 based on new information to reflect the annual changes in California's electric mix driven by the Renewable Portfolio Standard and other factors. On an annual basis, CARB staff proposes updating and posting the ELC002_1 pathway carbon intensity value using the most recently available electricity data from the California Energy Commission's Quarterly Fuel and Energy Report or other appropriate data source suggested by stakeholders.

¹ Available at: <http://www.caletc.com/wp-content/uploads/2016/08/Final-Report-Cap-and-Trade-LCFS.pdf>

CalETC supports the CARB staff proposal to use CEC Fuel and Energy reports rather than e-Grid data for this new annual update. This annual update approach is consistent with the treatment of other LCFS fuel pathways and recognizes that electricity is heavily regulated with stringent requirements to rely increasingly on renewable resources. The CEC reports are also more recent than the e-Grid report.

4. CARB staff proposes the addition of a new electricity pathway, “ELCR100.” ELCR100 will be a Lookup Table pathway representing electricity produced completely using wind- or solar-generation resources. Applicants who produce electricity from other renewable sources (such as biomass generation), that is not adequately represented by the previously discussed pathways, would still need to apply for an individual (non-Lookup Table) pathway.

CalETC supports the addition of an ELCR100 pathway. Similar to the comment above, this new pathway is consistent with the treatment of other LCFS fuel pathways and recognizes the carbon reduction value of 100 percent solar- and wind-generated electricity. We suggest keeping this approach as simple as possible; green-tariff programs at the utilities exist and are already verified. Therefore, green tariff programs are an obvious option for complying with this optional pathway. Further, this pathway supports utilities’ and California’s goals to reduce emissions from the electricity sector. Other possible options for ELCR100 should also be explored with the assurance that such pathways are additional to the RPS requirements and the current baseline, not overly complicated and verifiable with relative ease.

5. CARB staff proposes providing three clear options to recognize a reduced carbon intensity for renewable power supplied to electric vehicle charging stations. CARB staff proposes allowing renewable electricity to be eligible for an improved carbon intensity score if it:
 - a. is obtained through a program with eligibility requirements that match or are more stringent than the Green Tariff Shared Renewables Program under California Public Utilities Code Section 2833(1)(ii), or
 - b. is obtained through a program with eligibility requirements that match or are more stringent than those adopted by the California Energy Commission pursuant to implementation of Public Utilities Code Section 399.30(c)(4), or
 - c. meets all of the following criteria:
 - i. generated on land owned or leased by the charging station operator and located within the same EDU territory as the charging station;
 - ii. the electricity produced by the renewable generation system is delivered to the electric vehicle charging station expressly for supplying the station’s power demand, meets the renewable eligibility requirements in the California Energy Commission (CEC) Renewables Portfolio Standard Eligibility Guidebook (RPS Guidebook);
 - iii. and does not produce RECs that are sold, transferred or otherwise monetized under any program except RFS2.

CalETC supports these options. We also support CARB considering innovative additional credit generation options that encourage increased zero-emission electricity generation. Per above,

CalETC agrees that the benefits must be additional to the RPS requirements and the current baseline, not overly complicated, and verifiable with relative ease.

6. CARB staff proposes requiring a unique identifier for each registered fueling facility (electric vehicle charging station). CARB staff has learned, through communication with the electric vehicle service providers, that the meter used on the electric vehicle charging equipment should have a unique serial number assigned by the original equipment manufacturer. The serial number, along with the manufacturer information, could be used to assign a unique identifier to each electric vehicle fueling station. This unique identifier could facilitate validation of each new registered electric vehicle fueling station in LRT-CBTS and would allow CARB staff or verification bodies to match utility records to specific fueling stations. Staff believes that providing station-specific information will improve data accuracy and avoid double-counting of fuel dispensed at individual fueling stations, and ensures that the fuel for which credits were claimed is used for transportation in California.

CalETC recognizes the need to safeguard against double counting and suggests pursuing alternative approaches to the unique serial number referenced by CARB staff. The serial number approach has significant challenges, including:

- a. EV charging meter ownership varies and different parties perform maintenance and replacement activities.
- b. As substantially more chargers are installed, it is likely that site hosts will seek to reduce costs for themselves and/or their customers by simplifying the metering system such that it may apply to a full bank of chargers and not specifically to each charger.
- c. Charging systems are developing rapidly and it is essential that consumers have a positive experience, so the industry must focus on simplicity, cost reduction and consumer convenience. Complicating or adding unnecessary burdens on charging stations could interfere with a positive consumer experience.

We suggest that standardization of the GPS reporting process, combined with a verification protocol, could simplify and strengthen the current system. The verification process could include a random inspection in locations where there are both multiple charging units and multiple credit generators.

Of note, the California Department of Food and Agriculture, Division of Measurement Standards (DMS), is currently in the pre-rulemaking phase for proposed regulations that would result in the verification and labeling of electric vehicle supply equipment (EVSE).²

² Specifically, DMS is considering language contained in the National Institute of Standards and Technology (NIST) Handbooks 44 and 130. These provisions, as currently drafted, only apply to EVSEs that sell electricity at retail as a vehicle fuel, where “a quantity determination or statement of measure is used wholly or partially as a basis for sale or upon which a charge for service is based.” (Handbook 44 [2016] 3.40. Electric Vehicle Fueling Systems, Section A.1., https://www.cdffa.ca.gov/dms/pdfs/regulations/Handbook44_2016_340ElectricVehicleFuelingSystems.pdf. See also Title 4, Division 9, Chapter 7 Motor Vehicle Products, Advertising, Labeling and Method of Sale

CalETC is already working with DMS and other stakeholders as part of the DMS process. We suggest CARB track the process to determine if the labeling could inform the LCFS verification as appropriate.

7. CARB staff is seeking feedback from stakeholders to develop a specific Energy Economy Ratio (EER) for medium-duty electric buses. The current EER for light-/medium-duty electric vehicles is determined by the comparison of light-duty electric vehicles with their light-duty conventional counterparts. The medium-duty electric vehicles, such as shuttle buses, may have a different energy economy ratio than light-duty electric vehicles.

CalETC supports staff's recommendation. Presuming specific EERs for medium-duty electric buses is straightforward and transit agencies and bus manufacturers support a specific EER for medium-duty electric buses, CalETC believes it is appropriate to ensure these vehicles are receiving credits for the full LCFS credit value of their carbon reduction. CARB could simplify the process for credit generators proposing new EERs by providing a list of resources to aid in the development of new EERs. Such resources include EPRI and NREL, as well as expert consultants and academic institutions.

8. CARB staff is seeking feedback from stakeholders to develop vehicle class-specific EER values for heavy-duty electric vehicles based on weight of vehicle classes used in ARB mobile emissions inventory EMFAC2014. CARB staff believes more specific EER values could improve the accuracy of credit calculation for heavy-duty EV applications. The term heavy-duty vehicle covers a wide spectrum of vehicle types and sizes, ranging from 8,501 lbs. to over 60,000 lbs.

CalETC does not oppose this concept, but we are concerned that having many more EERs for each class of truck and bus could unnecessarily complicate the program and may have minimal impact on credit values. As an alternative, we suggest that CARB use a single EER for these categories of vehicles (recognizing it would be conservative) and new EERs could be developed over time. It may be that some credit generators prefer the conservative EER for

Requirements, Section 2.34. Retail Sales of Electricity Sold as a Vehicle Fuel,
https://www.cdfa.ca.gov/dms/pdfs/regulations/CCRChapter_7_DRAFTTextFuelsLubricantsAutoProducts.pdf.

) The proposed regulations do not apply to “the use of any measure or measuring device owned, maintained, and used by a public utility or municipality only in connection with measuring electricity subject to the authority having jurisdiction such as the Public Utilities Commission; ... used solely for dispensing electrical energy in connection with operations in which the amount dispensed does not affect customer charges or compensation; ... or the wholesale delivery of electricity.” (Handbook 44 [2016] 3.40. Electric Vehicle Fueling Systems, Section A.2.) Once the regulations are finalized and adopted, enforcement will require the inspection and testing of applicable EVSE. Although this process is not currently included in the proposed regulations, DMS has indicated in workshops that the process for marking EVSE that comply with the regulations will likely include some sort of seal and tracking/numbering system, such as the sealing used for retail gasoline stations. Such a process could be useful for tracking these EVSE under the LCFS program, however the process will need to be worked out with DMS and the local weights and measures officials who will be implementing the regulations.

simplicity and expediency. See the response in the previous comment regarding resource lists for parties seeking to pursue specific EERs.

9. CARB staff is seeking feedback from stakeholders to develop specific EERs for Ground Support Equipment (GSE) and Truck Stop Electrification (TSE).

- i) *CalETC supports development of EERs for GSE and TSE.* Allowing credits for these applications is consistent with the LCFS goal to reduce the carbon intensity of fuels and would encourage electrification of these applications. Parties wishing to generate credits from these sources should pursue EER development using the resource lists previously suggested.
- ii) *CalETC also supports development of EERs for electric truck refrigeration units (e-TRUs) and allowing them to earn LCFS credits.* E-TRU technology is available today to replace diesel- or gasoline-powered TRUs, but has a limited market share. Allowing LCFS credits for e-TRUs may increase their market share, which accomplishes the goals of the LCFS and many other state goals. Data from CARB's regulation on TRUs should help in creating an EER for e-TRUs. In addition, SCE submitted a proposal to the CPUC that, if approved, would accelerate deployment of e-TRUs and provide valuable data from separately-metered accounts.
- iii) *CalETC also supports the development of EERs for Neighborhood Electric Vehicles (NEVs) and allowing them to earn LCFS credits.* NEVs and similar technology replace gasoline-powered cars in many locations in California – often in retirement communities, on islands, on campuses and at large facilities. NEVs are an appropriate technology that matches a specific customer need.

10. CARB staff is proposing to allow electric forklifts, that are introduced into the California market after the 2010 baseline year, to earn LCFS credits using the regular credit formula that includes the EER term.

CalETC supports CARB staff's proposal as it would make the credit calculations consistent among all the off-road electricity applications.

11. *CalETC supports exempting grid electric vehicle charging from third-party verification, with the exception of the renewable pathway option.* Utilities are heavily regulated and the reporting requirements for utilities are more onerous than for other fuels, e.g., other fuels are not required to demonstrate that proceeds are returned to drivers. Additionally, the utility calculations for LCFS credits are largely a result of data points originating from CARB, unlike other credit generators.

Thank you for your consideration. CalETC and its member utilities look forward to continuing to work with CARB staff in support of the Low Carbon Fuel Standard.

Regards,

Eileen Wenger Tutt
Executive Director