Beyond Energy, LLC
97 Pound Hollow Rd
Old Brookville, NY 11545

October 6, 2017

Mr. Sam Wade
Chief, Transportations Fuels Branch
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Beyond Energy's Comments in Response to September 22, 2017 LCFS Draft Regulation

Dear Mr Wade:

Beyond Energy appreciates the opportunity to submit comments in response to the draft regulatory amendment language to the Low Carbon Fuel Standard (LCFS). Beyond Energy is an opt-in regulated party in the LCFS program; we work directly with electric forklift fleet managers to help decrease operating costs and the higher upfront costs of electric forklifts.

Our comment relates to the calculation included in the draft regulatory text in section 95486(b)(3)(D) regarding credits generated by electricity used in forklifts. We note the absence of the EER^{xD} term that is included for other fuels as shown in the text in section 95486(b)(3)(C). In other words, as it stands, electricity used in forklifts is not properly credited for *displacing* energy (from diesel fuel). In principle, we believe that this reflects staff's view that there are too many forklifts in operation that were operating before the regulation took effect in 2011. For the sake of reference, with the exception of hydrogen used in forklifts, there are no other fuel-vehicle combinations that are excluded from consideration for the so-called displacement credit. Even electricity used in fixed guideway systems has the potential to generate credits using the displaced energy calculation "with Executive Officer approval." Ultimately, we seek the same opportunity—to generate credits using the displaced energy calculation as shown in section 95486(b)(3)(C), but only with Executive Officer approval. Beyond Energy is committed to working with CARB staff to develop a protocol to distinguish between electricity consumed by forklifts based on their model year. To be clear, we are not seeking approval for all electricity used in forklifts to receive the displaced energy credit. Rather, we'd like the opportunity to earn Executive Officer approval. Our suggested regulatory text for section 95486(b)(3)(D) is:

> For Fixed Guideway Systems and Forklifts:
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> where:
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> Ei is the energy of the fuel used to propel fixed guideway systems or electric and hydrogen fuel cell forklifts. For fixed guideway system expansion beyond 2010, and for electricity or hydrogen used in forklifts with model year 2011 or later the formula for displaced energy in section 95486(b)(3)(C) may be used with Executive Officer approval.

This recommended change puts the onus on regulated parties like Beyond Energy or the Electrical Distribution Utility (EDU) to work with CARB staff to demonstrate that they can distinguish between electricity (or hydrogen) used in forklifts based on the model year.

Beyond Energy is concerned that, absent the recommended change, electricity in forklifts is not being treated the same as other fuel-vehicle combinations in the program. CARB staff recognized this issue in Staff Discussion Paper entitled Electricity as a Transportation Fuel from November 2016.[1] CARB staff writes (*emphasis added*):

> Under the current regulation, the LCFS credit formulas for all electric forklifts and pre-2011 electric fixed guideways do not include enhanced credits due to the EER term, *which substantially reduces the number of credits these electrical applications can generate*. In contrast, the LCFS credit formula for new electric fixed guideway systems or expansions after 2010 includes an EER adjustment.
>
> In order to make the credit calculations consistent among all the off-road electricity applications, staff proposes 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.

Based on our review of comments submitted, we found no opposition to staff's proposal. In fact, the only response was in support of the change. The California Electric Transportation Coalition (CalETC) writes: "CalETC supports CARB staff's proposal as it would make the credit calculations consistent among all the off-road electricity applications."[2] Beyond Energy is disappointed to read that there are no provisions included in the draft regulatory text consistent with CARB staff's proposal in December 2016.

In research sponsored by CARB via Agreement 14-614 with the Social Science Research Center at California State University, Fullerton, 48.5% of electric forklifts were model year 2010 or later (of a sample size of 165).[3] We understand this is a small sample size. However, Beyond Energy currently works with fleets that, when combined, have more than 1,500 electric forklifts in operation. Between the release of the draft regulatory text and the comment period deadline, Beyond Energy surveyed a subset of fleets for whom we report electricity as a transportation fuel. Based on this survey, we estimate that at least 60% of the forklifts that our partners are operating today are model year 2011 or later. We also have several partners that indicated that they will be updating their fleet (i.e., 100% fleet turnover) in the next 12 months with entirely new electric forklifts. In other words—a significant and increasing number of credits are not being generated because they are excluded from consideration.

As noted previously, Beyond Energy's primary concern is that electricity in forklifts is not being properly credited for displacing diesel as a transportation fuel—and that electric forklifts are not being treated on a level playing field with other fuel-vehicle combinations. We recognize that the forklift fleet includes equipment that has been in operation since before 2011. However, as it stands, the draft regulatory text continues to exclude without exception the potential for regulated parties operating forklifts using electricity to generate credits using the displacement credit. If the regulated party can demonstrate that

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[1] Available online at https://www.arb.ca.gov/fuels/lcfs/lcfs_meetings/12022016discussionpaper_electricity.pdf.
[2] Available online at https://www.arb.ca.gov/fuels/lcfs/workshops/03202017_caletc.pdf.
[3] SSRC/CSU-Fullerton, "Survey of Large Spark-Ignited Engines Operating in California", ARB Agreement 14-614. Available online at https://www.arb.ca.gov/fuels/lcfs/electricity/ssrc_2017.pdf.

a forklift has been introduced into the fleet with a model year 2011 or later, then that party should be allowed to generate credits using the displacement credit as shown in section 95486(b)(3)(C). Beyond Energy's recommended change is small, and it puts the onus on the regulated party to develop a robust methodology subject to CARB review and approval. The recommended approach strikes a balance: it provides electric forklifts the same credit generating opportunity as other fuel-vehicle combinations subject to the LCFS program and maintains program credibility by providing CARB staff the opportunity to review and approve of any methodology proposed by regulated parties.

Beyond Energy thanks CARB staff for allowing us the opportunity to provide comments and share our recommended changes to the draft regulatory text. Please feel free to reach out to me if you have any questions.

Sincerely,

Joseph Turquie
Beyond Energy, LLC