BEYOND ENERGY

August 8, 2022

California Air Resources Board
1001 I St
Sacramento, CA 95812

RE: Comments in Response to Low Carbon Fuel Standard Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard (July 7, 2022)

Beyond Energy thanks the staff of the California Air Resources Board (CARB) for the opportunity to comment in response to information presented at the Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard (LCFS), which took place on July 7, 2022. By way of background, Beyond Energy is one of the premier service providers to fleets that operate material handling equipment using eligible low carbon fuels, with a focus on electric forklifts. Beyond Energy has a history of working closely with CARB staff as it relates to crediting for electric forklifts; for example, Beyond Energy played a critical role in developing the methodology that is used to estimate electricity consumption by forklifts, as outlined in the Draft LCFS Regulatory Guidance 17-02.[1]

CARB Staff communicated during the workshop that they are soliciting feedback on the phase-out of credits for electric forklifts (see Slides 20 and 21 of the CARB presentation). Beyond Energy has some reservations about the precedent established by phasing out electricity in forklifts, namely because the rationale for doing so is not entirely clear. CARB staff cited total cost of ownership, the percentage of fleets that have adopted the technology, growth in credit generation, and existing legislation that requires zero-emission forklift adoption in the future. Will these same criteria be applied to other technologies? For instance, the same rationale that is outlined by CARB staff could be applied to electric vehicles in the light-duty vehicle market or natural gas vehicles in the transit bus market. Without clearer rationale, Beyond Energy fears that the decision to phase out electric forklifts runs the risk of having a chilling effect on investments in other low carbon fuels.

However, Beyond Energy understands and appreciates that CARB is seeking to update the LCFS program to account for changes in market dynamics. ***Despite our reservations stated previously, Beyond Energy is supportive of phasing out credits generated via the use of electricity in forklifts if it is done in a manner that is measured and transparent.*** Most importantly, Beyond Energy recommends against an approach whereby credits generated from the use of electricity in forklifts are "turned off"—a scenario which we define to be binary, whereby electricity in forklifts is an eligible credit generating pathway one reporting period, and in the very next reporting period it is no longer an eligible credit generating

[1] More information available online here:
https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/guidance/regguidance_17-02.pdf.

pathway. Beyond Energy's recommended approach for phasing out electricity used in forklifts is based on the following key points:

- *Recognize existing investments.* Many forklift operators, particularly those that have replaced units operating on liquefied petroleum gas (LPG) and to a lesser extent diesel, have incorporated the potential revenue from LCFS credits into their purchasing decision. If CARB phases out electric forklift credit generation entirely in the 2025 to 2028 timeframe, for instance, it will likely impact negatively many market players that have already made a clear commitment to reducing GHG emissions and decreasing criteria air pollutants in the recent past.
- *Incorporate fleet turnover.* Fleet turnover amongst forklift users varies considerably, depending on operational considerations, budgetary constraints, and broader macroeconomic conditions. Forklift fleet turnover tends to be measured more in hours of operation than in years. Most manufacturers communicate that a forklift's lifetime is in the range 10,000 to 15,000 hours of use. In a multiple shift operation that runs around the clock, this can be 4-6 years; however, in a single shift operation that runs for 5-6 days per week, this yields about 10 years of use.
- *Leverage existing reporting requirements.* Electric forklift fleet operators need to provide a variety of information as part of LCFS reporting, including the make, model, model year, and serial number of forklifts in operation. These data can be leveraged to phase out electric forklift crediting.
- *Account for complementary regulations.* The current draft regulatory concept for the Zero-Emission Forklift rule[2] envisions a) excluding fleet operators from purchasing new large spark ignition (LSI) forklifts and b) retiring existing LSI forklifts 13 years or older starting in 2026.

With these main concepts in mind, Beyond Energy recommends the following approach:

- Effective January 1, 2026, only forklifts from model year 2016 to 2025 would be eligible to generate LCFS credits. The proposed ten-year timeline aligns with several things:
  - the average forklift life is around 10 years, as outlined previously;
  - the 2016 year refers to the first year in which electric forklifts were eligible to generate LCFS credits, and potentially impact purchasing decisions; and
  - the 10-year timeframe for crediting for electric forklifts is consistent with other aspects of the program (e.g., the carbon intensity values for Tier 2 pathways are good for 10 years).
- Each calendar year thereafter will phase out the model year from ten years prior, and model year 2025 will remain as the capped year for credit generation. For instance, in 2027, only forklifts from model year 2017 to 2025 will be eligible to generate credits. The table below makes this clearer on an annual basis out to 2035. Entities generating credits for electric forklifts

[2] More information available online at https://ww2.arb.ca.gov/our-work/programs/zero-emission-forklifts/zero-emission-forklifts-meetings-workshops.

already need to track these model year data anyhow, so this would not impose some undue burden on regulated parties.

Calendar Year	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
MY Eligible for eForklifts	2016-2025	2017-2025	2018-2025	2019-2025	2020-2025	2021-2025	2022-2025	2023-2025	2024-2025	2025

- Starting on January 1, 2036, electric forklifts would be entirely phased out as an eligible crediting pathway in the LCFS program.

Beyond Energy's proposed approach fulfills our twin objectives of being measured and transparent, while also respecting CARB's need to update the LCFS program to reflect an evolving market. Beyond Energy's rationale is informed by market realities like respecting investments already made, accounting for fleet turnover, minimizing undue reporting burdens on regulated parties, and avoiding interference with other regulatory initiatives. Beyond Energy's proposed approach will help fleets plan for changes and ensures that there are no surprises as fleets make investments to improve operations and reduce GHG emissions. Furthermore, Beyond Energy's proposed approach gives fleets ample time to adjust LCFS revenue expectations while providing some incentive (via LCFS credit generation) for early action related to zero-emission forklift adoption.

Thank you again to CARB staff for the workshop and related presentation materials, and for the opportunity to provide feedback on the potential changes to the LCFS program. Beyond Energy looks forward to working with CARB and other stakeholders to ensure the continued success of the LCFS program.

Sincerely,

Joseph Turquie
Chief Executive Officer
Beyond Energy LLC