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December 9, 2022

Low Carbon Fuel Standard Program
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: Mainspring Energy, Inc.'s comments on the November 9th Public Workshop to Discuss Potential Changes to the Low Carbon Fuel Standard

To LCFS Program Staff:

Mainspring Energy, Inc. (Mainspring) submits these comments on the staff presentation on the Low Carbon Fuel Standard (LCFS), held on November 9, 2022.

About Mainspring

Driven by its vision of the affordable, reliable, net-zero carbon grid of the future, Mainspring has developed and commercialized a new distributed power generation technology — the linear generator — that delivers dispatchable, fuel-flexible electric power at low cost. Mainspring's linear generator offers a unique and highly flexible energy and capacity expansion solution that can simultaneously address the critical need for greenhouse gas and criteria pollutant emissions reductions while also maintaining reliability and resilience.

Modular and scalable, Mainspring's linear generators can be deployed locally where

demand exists to provide power for individual buildings, entire communities, and also fleet electric vehicles (EVs). Full dispatchability allows linear generators to turn on and off as needed and consistently match power output with the specific energy need, while integrating with and firming variable renewables such as solar and wind, thereby supporting the continued rapid adoption of renewable energy while bolstering resilience and avoiding unnecessary curtailment.

Mainspring linear generators are uniquely positioned for biogas applications, both onsite and directed, because they are highly efficient (i.e., more kilowatt hours for a given biogas flow), have ultra-low criteria emissions that meet the CARB DG standard, are fuel flexible with the ability to operate on low and varying quality biogas, and are fully dispatchability to ramp power output with varying biogas production levels.

Mainspring opposes Alternatives A and B and supports Alternative C

Broadly, Mainspring supports LCFS program changes that are technically sound and science-based, and appreciates the initial modeling conducted by CARB staff to develop the three alternatives. Mainspring is supportive of LCFS changes that encourage the deployment of EV infrastructure supported by net-zero and zero carbon fuels, do not place unnecessary limitations on renewable fuel types and encourage market growth. For these reasons and the issues discussed below, Mainspring opposes Alternatives A and B, and supports Alternative C.

Decisions to phase-down avoided biomethane crediting should be backed by comprehensive technical analysis

The transportation sector is difficult to decarbonize. Methane capture and control will continue to be a difficult technical challenge. As such, we should let the modeling and the market dictate when biomethane crediting should be phased out. Phasing down biomethane crediting without science-based, sound technical rationale will risk prematurely excluding beneficial net-zero and zero carbon solutions that can drive widespread EV deployment.

Book & Claim landfill gas should not be limited to hydrogen

Mainspring's linear generators can be fueled by hydrogen, in addition to other net-zero and zero carbon fuels, and we strongly support investments in hydrogen refueling infrastructure. As noted in the workshop presentation, Governor Newsom's Executive Order N-79-20 established a target where all medium and heavy duty vehicles must be zero emission vehicles by 2045. However, limiting book and claim

(B&C) landfill gas to hydrogen, a single fuel, will further inhibit the market and be cost-prohibitive for many. Instead, CARB should maintain current rules and flexibility and let the market decide whether converting to hydrogen is the most feasible option.

Limiting Book and Claim eligibility to the West will significantly increase biogas prices

B&C eligibility should not be limited to projects in the Western NG network at this stage in the market. Renewable natural gas (RNG) is in limited supply. Restricting eligibility to the West will significantly increase prices to meet the demand for RNG in California. Allowing B&C eligibility for all North American RNG projects, as proposed in Alternative C, will provide an easier, more affordable, on-ramp for technologies to use renewable fuels to power EV chargers and encourage the market to grow. Limiting B&C eligibility to the West will discourage an accelerated build out of EV charging infrastructure using renewable generation, and run counter to the state's goals.

Alternative C is the best option to inform future target setting and modeling

By making minimal changes to the current program, Alternative C offers the flexibility necessary for the market to support the acceleration of EV infrastructure while adopting a more aggressive 2030 carbon intensity reduction target that is consistent with the state's climate goals and directives. Alternative C does not impose the technically unproven limitations proposed in Alternatives A and B that risk inhibiting the market, increasing RNG costs, and stymying the growth of EV infrastructure in California. Further, as discussed in the workshop presentation, Alternative C will have the highest impact in nearly all LCFS program metrics including, but not limited to, GHG reductions, pace of ZEV deployment, and cost to consumers. Therefore, Mainspring supports using Alternative C to inform target setting and modeling for future LCFS program changes.

Mainspring appreciates the opportunity to provide comments and looks forward to continued discussions on these issues in the future.

Sincerely,

/s/Melicia Charles

Melicia Charles, Director of Regulatory Affairs, West