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California Air Resources Board

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Via electronic submittal: [LCFS Comment Docket](#)

Re: Rondo Energy Comments on July 7, 2022 Workshop: Potential Changes to the LCFS

Rondo Energy (Rondo) appreciates this opportunity to submit comments regarding potential changes to the LCFS regulation. Rondo strongly supports CARB's ongoing efforts to solicit the latest information and the lowest-cost, least-risk pathways to achieve California's climate, environmental, and economic goals. Rondo submitted previous comments to the December LCFS workshop and incorporates them by reference here.¹ This comment letter continues to build upon those initial thoughts in the spirit of CARB's iterative approach to policy making.

Rondo is a California-based company which has developed an innovative technology to deliver zero-carbon energy and heat for a wide range of industrial processes, including liquid fuel production. The Rondo Heat Battery provides the continuous high-temperature heat needed for industrial processes without combustion. The Heat Battery captures intermittent electricity, stores that energy as high-temperature heat in simple solid material, and delivers high-temperature heat around the clock. This technology harvests overgeneration of solar energy, cuts the cost of clean energy, and reduces the Carbon Intensity (CI) of all industrial processes that use heat, including liquid fuel production – the refining of biofuels and extraction and refining of petroleum derived fuels.

Rondo's Heat Battery technology can greatly lower the CI and reduce the impact of all California liquid fuels, both in biofuel pathways and in crude oil supply. When the steam used in producing biofuels is powered by renewable electricity, total fuel CI is reduced 30% or more. When the steam used at California oilfields is powered by renewable electricity instead of natural gas, *the CI of in-state crude becomes lower than the CI of imported crude*. Replacing tanker-imported crude with lower-CI, locally produced crude has broad economic and environmental benefits.

Today's Innovative Crude provisions of the LCFS regulation provide a practical framework to enable the economical, prompt transition to zero-emissions steam. As California continues along its decarbonization pathway and the LCFS looks to address persistent sources of emissions, it is more important than ever that the LCFS continues to ensure that those investments will bear low regulatory risk to projected financial returns.

The LCFS was conceived as a market-based, technology-neutral mechanism designed to drive investment in low-carbon fuel technologies. Its success depends on market understanding of the stability of the program, the expected supply-demand balance of credits, and the stability of specific regulatory provisions. Uncertainties about the future of the program and/or regulatory provisions delay or prevent the needed substantial investments in low-carbon technologies. In the spirit of seeking marketplace

¹ https://www.arb.ca.gov/lispub/comm2/bccomdisp.php?listname=lcfs-wkshp-dec21-ws&comment_num=151&virt_num=101



understanding and encouraging investments in low-carbon fuel production, Rondo respectfully suggests that the program itself and the Innovative Crude provisions be clarified and strengthened.

The July workshop raised the challenge of disequilibrium in the LCFS credits market. We agree that it is critical to address the gap between credits and deficits, as the unanticipated falling value of credits has led to uncertain financial return for investments. Increasing the value of credits—and ensuring greater price stability—is therefore of the utmost importance. We believe that increasing the demand for credits through steadily more stringent CI requirements, rather than abruptly decreasing the supply of credits through the sunset of current credit-generating activities, will be a more effective market mechanism. Regulatory changes that pick and choose technologies undermine confidence in a well-ordered market, and may have unintended consequences in investor confidence and slow the overall rate of decarbonization.

For example, Rondo firmly believes that a sudden sunset of electric forklifts, as a means to decrease the supply of LCFS credits in the near term, would send a market signal that LCFS credit-generation may be temporary and unreliable for long-term investments. Businesses which invested in electric forklifts would potentially not realize their expected return, setting an undesirable precedent for other LCFS “success stories” and deterring future investments in other decarbonization technologies. We advise that a phase-out of electric forklifts from the LCFS program, if pursued as suggested at the July workshop, must at minimum i) include a provision that grandfathers previous investments in electric forklifts into credit generation for the duration of the equipment’s useful life, and ii) provide transparent economic rationale.

Rather than punish success stories, Rondo believes that changes to the program should build on demonstrated compliance wins and focus on adjustments to forward CI standards. In this manner, investor confidence across all fuel pathways, both new and old, is sustained and increased. Such investor confidence will drive faster deployment of the low-carbon infrastructure and technologies needed for the success of the program.

When our customers or our investors weigh making large-scale capital investments in decarbonization technology like the Rondo Heat Battery, they evaluate the financial return on the investment over its entire useful life. The LCFS has, to date, had a powerful impact on expanding the set of decarbonization investments that are financially attractive. As the long-term credit generation potential of the investment becomes more uncertain—or as the value of credits drops—the set of financially attractive decarbonization investments will decline. Stable, reliable credit generation and value are core to maximizing the LCFS’s reach and achieving its goals.

Persistent sources of emissions, like those Rondo is reducing for our customers, will be disproportionately impacted by an uncertain LCFS market. Typically, these entrenched decarbonization challenges require capital-intensive projects with long payback periods. They may require 10 to 20 years of guaranteed and reliable credit generation in order to be financially viable.

We believe a grandfathering provision addresses the concerns raised in this letter by “locking in” certainty for businesses at the start of a project or investment. Rondo is supportive of a formal phase-out process with a grandfathering provision for decarbonization technologies that have advanced sufficiently along the adoption curve. This structure allows CARB to shift LCFS credits to the areas where they are





most needed, while signaling a credible financial return for businesses considering decarbonization pathways. A grandfathering provision has the additional benefit of incentivizing early adoption of decarbonization technologies prior to their phase out.

The July workshop also introduced a demand-side intervention: tightening 2030 and post-2030 CI targets. Rondo is highly supportive of this tactic. More stringent CI requirements will increase the credit deficit, driving up the price of credits and rewarding LCFS participation, which will, in turn, continue to accelerate California's decarbonization. We therefore advise that CARB retain significant flexibility in setting CI targets and requirements so as to ensure the efficacy of this particular tool in managing the credits market.

California's overall economy and environmental programs have greatly benefited from the LCFS. In areas from biofuels to carbon capture to renewable heat, the LCFS is driving development and installation of technologies that will be urgently needed across multiple economic sectors. Those early LCFS-supported deployments will provide critical proof points and cost reductions that will increase the certainty and reduce the cost of those technologies as they apply in manufacturing, food, and many other sectors going forward. The deployment of zero-emission technologies such as Rondo's will also deliver benefits in air quality, with disproportionate benefits in many environmentally impacted communities.

The LCFS has helped position California as a leader in the world's future clean energy economy. We believe the program's continued success depends on minimizing financial risk and uncertainty for decarbonization projects. Rondo is committed to supporting the LCFS however it can in this work.

Sincerely,
/s/

John O'Donnell
CEO, Rondo Energy

