

Liane Randolph, Chair
Board Members
California Air Resources Board

February 20, 2024

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

Re: Rondo Energy, Inc. Comments on the January 1, 2024 Formal Regulatory Amendment Package

Rondo Energy, Inc. (Rondo) appreciates this opportunity to submit comments regarding the regulatory package released last month to the LCFS regulation. Rondo supports CARB’s ongoing efforts to continue to lower the carbon intensity of the state’s fuel supply using the latest information and the lowest-cost, lowest-risk pathways to achieve California’s climate, environmental, and economic goals. Rondo submitted previous comments to earlier LCFS workshops and incorporates them by reference here.^{1,2,3,4,5}

About Rondo

Rondo is a California-based company delivering zero-carbon energy for industrial processes and power generation, including for traditional and renewable transportation fuels and feedstock production⁶. The Rondo technology allows for the replacement of fossil fuel combustion with renewable industrial heat, thus achieving significant criteria and greenhouse gas emissions with a single capital project. The 2022 Scoping Plan Update calls out the need to replace traditional combustion technology, and Rondo is proud to be on the front edge of this transition especially in the ‘hard-to-decarbonize’ industrial sector.

Historically, it has been difficult to curb refining, biofuel facility and feedstock extraction combustion emissions because of a lack of clean, cost-effective sources of industrial heat. The emergence of indirect industrial electrification technologies, including the Rondo Heat Battery, or RHB, now provides an immediately feasible, cost-effective, and equitable way to decarbonize the numerous and diverse industries that collectively make up a significant portion of both California’s economy and its GHG emissions.

Rondo’s approach to decarbonization – harvesting intermittent and curtailed renewable power, and putting it to work eliminating combustion - aligns with the broader electrification strategy of the state. The technology is being deployed around the world today. It is time to align California policy to enable more projects here in our home state.

¹ <https://www.arb.ca.gov/lists/com-attach/51-lcfs-wkshp-oct20-ws-U2EGMAExB2UBN1Jh.pdf>

² <https://www.arb.ca.gov/lists/com-attach/77-lcfs-wkshp-aug18-ws-BzVTZ1dmA2kFMggx.pdf>

³ <https://www.arb.ca.gov/lists/com-attach/151-lcfs-wkshp-dec21-ws-ATNWYIFgBWcBNwA3.pdf>

⁴ <https://www.arb.ca.gov/lists/com-attach/36-lcfs-wkshp-nov22-ws-UGJTZ1xsVDVXYAI3.pdf>

⁵ https://www.arb.ca.gov/lispub/comm2/iframe_bccomdisp.php?listname=lcfs-wkshp-feb23-ws&comment_num=49&virt_num=41

⁶ <https://rondo.com>

Comments

Comment #1: Rondo is supportive of CARB's efforts to stabilize the LCFS market.

Rondo's indirect electrification technology can meaningfully enable LCFS credits today and can be more impactful with some additional regulatory changes. The LCFS creates a long-term, reliable economic value proposition for Rondo's customers to decarbonize, and as a result Rondo is actively engaged in decarbonizing California transportation fuels. A Rondo Heat Battery project, with its associated large solar and wind projects, is essentially pre-paying for 40 years of process heat energy. Near-term price support with long-term assurance is therefore critical to funding decarbonization today.

Rondo supports the regulatory amendments aimed at restoring equilibrium in the credit marketplace, and believes that interventions that strengthen the price signal in the near-term are particularly important. Extended periods of low prices reduce market confidence in the mechanism, which jeopardizes the ability for decarbonization projects to get financed and built. Stabilizing the credit-deficit balance will unlock projects set to deploy over the next 1-3 years – a particularly critical window in California's efforts to reach its decarbonization goals.

Comment #2: Support for Project-based crediting.

The regulatory package makes a clear statement that project-based crediting should be retained in the LCFS program through the next decade. We are supportive of this statement as it provides the investment community the positive signal new projects need. Rondo also suggests that for very large capital infrastructure projects, such as new renewable energy fields, that these credit generating opportunities should continue as long as they are reducing the carbon intensity of California fuels. This is the approach already proposed for Carbon Capture and Storage projects.

Comment #3: Support for expanded Indirect Accounting Mechanisms for liquid fuel production.

Much thought has gone into the treatment of electricity as an input in the EV and hydrogen fuel pathways, including allowing the indirect account of Low-CI electricity over the grid with quarterly matching to adjust the CI calculations for feedstock electricity. Renewable electricity is becoming a larger and larger portion of grid power in numerous areas of the country. Electrifying the process energy used to produce liquid fuels is a major opportunity to lower the CI of those fuels. When natural gas is replaced by electricity for process heat, the total CI of the electricity becomes salient for the CI calculation of the finished fuel.

At the moment, the accounting means for book and claim Low-CI electricity provided for in the regulation apply only to the production of hydrogen as a fuel. As clean electricity can meaningfully reduce the CI of liquid fuels, these accounting methods should be extended to the production of liquid fuels. This matters because energy storage systems such as Rondo's selectively charge during periods of low-carbon, low-price power in a time-matched manner with wind and/or solar generation. Under the regulation at present, the only means of incorporating renewable electricity to lower CI calculations is to build generation and distribution facilities which interconnect at the fuel production facility behind the meter to a local renewable generator – unlike for hydrogen. Adding the same indirect accounting for book and claim flexibility would significantly expand the electrification of fuel production and reduce the carbon intensity for liquid fuels. There is sufficient renewable power, especially in the Midwest where the majority of biofuels are produced, such that there are daily curtailments of wind energy happening. This zero-carbon energy could charge a Rondo Heat Battery without impacting peak periods of the grid. At the same time that indirect book and claim Low-CI electricity accounting is expanded, the stringency of this accounting should be increased across all credit generating pathways to require hourly time matching of renewable electricity generation



to the electricity consumption. This will create true grid emissions reductions from the growing electrification of vehicles, biofuels and H2.

This selective use of allowing book and claim Low-CI electricity consumption is placing unnecessary limits on the LCFS program's ambition. As the staff revisit some of the concepts presented in these amendments in the coming months, we recommend that this issue be at the forefront of those discussions. All credit generation pathways should be able to use hourly time matched Low-CI book and claim accounting, with strong deliverability requirements, to support electrification and lower the carbon intensity of California fuels.

Conclusion

The technology is ready to lower industrial carbon intensity when making California fuels. The electrification policy can be expanded beyond vehicles while the transition is happening. We also note that there are several bills pending today in the California Legislature that recognize state policy is falling behind where industry is leading⁷. During this important update to the LCFS regulation, it is critical to look ahead at the possibilities of all technologies solutions, and how to not limit their use.

There are myriad benefits to generating industrial heat and the use of thermal batteries with renewable energy instead of fossil fuels^{8,9}. In addition to the significant GHG emissions reductions, eliminating combustion for thermal loads has direct local air quality benefits in the state's most impacted communities. The strength and stability of the LCFS are at the heart of this transition.

Thank you for the opportunity to provide these comments. We look forward to continued discussions.

Sincerely,

/s/

John O'Donnell
CEO, Rondo Energy, Inc.

⁷ SB 993, SB 1018, AB 2083

⁸ <https://energyinnovation.org/publication/thermal-batteries-decarbonizing-u-s-industry-while-supporting-a-high-renewables-grid-2/>

⁹ <https://www.renewablethermal.org/tes-assessment-press-release/>



