



May 9, 2024

Matthew Botill
California Air Resources Board (CARB)
1001 I Street
Sacramento, CA 95814

Re: Brimstone's Comments on the April 10th California Low Carbon Fuel Standard Workshop

Dear Mr. Botill:

Brimstone appreciates the chance to comment on the California Low Carbon Fuel Standard (LCFS) April 10, 2024, Workshop. Brimstone supports California's climate change goals, including achieving carbon neutrality and net-negative greenhouse gas emissions by 2045. We support 15-day changes to adopt a more stringent step-down to strengthen the market and remove excess credits. We also strongly encourage additional 15-day changes to accommodate additional carbon removal protocols that may be developed through the SB 905 process or otherwise, including mineralization of carbon dioxide from the atmosphere and ocean.

About Brimstone

Brimstone is a California-based company, headquartered in Oakland, with a deeply decarbonized process for making ordinary portland cement. Traditionally considered one of the toughest materials to decarbonize, the cement industry has nearly the same greenhouse gas impact as all the world's cars on the road today.

Our process produces ordinary portland cement—the type of cement used in virtually all construction—from carbon-free calcium silicate rocks, rather than limestone. This avoids the 60% of emissions that come from cement's traditional feedrock and also produces a magnesium byproduct that passively mineralizes CO₂ from air, permanently storing it as magnesite rock.

Brimstone is upending the conventional wisdom that CO₂ emissions are a necessary to manufacture cement and that the only way to decarbonize its production is by accepting the cost and complexity of carbon capture. We are also proving that avoiding carbon emissions and removing them from the air can, and ideally do, go together.

A step-down of at least 9% needed to support a strong LCFS market

We appreciate CARB re-evaluating the targets proposed in the program. As noted in the workshop, further step-downs in near-term stringency of the program are likely needed to

remove surplus allowances and ensure the LCFS continues to drive additional investment in low-carbon fuels, carbon dioxide removal, and cleaner transportation. We therefore support strengthening the step-down to at least 9% in 2025--and further strengthening the 2030 target to ensure greenhouse gas emissions outcomes that align with CARB's 2022 Scoping Plan.

LCFS amendments should allow mineralization or other potential new carbon removal or DAC protocols to be used if they are adopted separately

Currently, the LCFS stands out as one of the few global markets for carbon capture, removal, utilization, and storage (CCRUS). We encourage CARB to leverage this powerful tool to support development of carbon dioxide removal technologies and strategies needed to meet the state's climate change goals. We hope CARB will consider additional carbon removal and storage protocols to accommodate new credit-generating pathways under the LCFS, including direct air capture (DAC) of carbon dioxide via mineralization and enhanced rock weathering.

While developing new CCRUS protocols is beyond the scope of the current rulemaking, CARB may adopt them separately through the SB 905, SB 27, or other processes. Accordingly, we encourage CARB through 15-day changes to ensure that, if and when new protocols are adopted, new carbon removal strategies and technologies will be immediately eligible to generate credits under the LCFS. Specifically, regulatory text should simply refer to the CCS Protocol by reference, and not include other limiting factors or definitions related to DAC or CCS projects, including references to geologic sequestration, pipeline transport of CO₂, or other parameters that might bias and limit future technologies and applications of CCRUS.

This will allow new CCRUS strategies to be deployed on a tech-neutral basis, if and when they adhere to adopted protocols by CARB, without needing to go back and amend the LCFS again. Broadening the definition of eligible DAC projects and carbon removal strategies will unlock solutions with significant potential for widespread impact, crucial for meeting California's carbon neutrality goals.

Conclusion

Thank you again for the opportunity to comment on the recent LCFS workshop. We look forward to working with you and other stakeholders through the LCFS process, SB 905 implementation, and other forums to keep the state on track to meet and exceed its climate goals. Please do not hesitate to reach out if you have any questions about Brimstone or these comments.

Thank you,

Simon Brandler
VP of Policy & Public Affairs
Brimstone