



February 15, 2024

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

Re: Brimstone's Comments on the Proposed Low Carbon Fuel Standard Amendments

Dear Mr. Botill:

Brimstone appreciates the opportunity to comment on the proposed amendments to the Low Carbon Fuel Standard (LCFS). Brimstone supports California's climate change goals, including achieving carbon neutrality and net-negative greenhouse gas emissions no later than 2045. Currently, the LCFS provides one of the only regulatory markets in the world for carbon removal. This is a critical element of the program, and we strongly support the inclusion of carbon removal via direct air capture (DAC) as a credit-generating pathway under the LCFS.

Because carbon removal is so critical to achieving California's goals, we further encourage CARB to develop additional carbon removal protocols as it implements SB 905, including mineralization of carbon dioxide from the atmosphere and ocean. LCFS amendments should accommodate new carbon removal pathways, if and when they are adopted in the future. We accordingly urge CARB to consider 15-day changes to the LCFS proposal that would allow new carbon removal pathways to be included in the program, provided they meet the additionality, permanence, and other requirements of existing CCS Protocol.

About Brimstone

Brimstone is a California-based company, headquartered in Oakland, with a carbon-negative process for making ordinary portland cement. Cement has nearly the same greenhouse gas impact as all the world's cars on the road today, and it has traditionally been one of the most difficult materials to decarbonize – until now.

Our process produces ordinary portland cement from calcium silicate rocks, which do not contain CO₂, rather than limestone. It avoids any process emissions associated with producing portland cement and produces a magnesium byproduct that passively mineralizes CO₂ from the ocean or air and permanently stores it as magnesite rock.

Brimstone is upending the conventional wisdom that CO₂ process emissions are a necessary outcome of cement production and that carbon capture and sequestration (CCS) and associated high costs and/or subsidies are required to decarbonize the traditional process. We are also proving that carbon removal and direct greenhouse gas emission reductions at their source can, and should, go together, and need not be considered tradeoffs.

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

We encourage CARB to allow the utilization of diverse carbon removal solutions that extend beyond existing CCS Protocols to be included in the LCFS. Specifically, we ask that CARB consider broadening definitions and references to CCS, DAC and the CCS Protocol to make clear that new carbon removal protocols may be developed and added to the CCS Protocol, and that if/when they are, projects utilizing those protocols would be eligible to generate credits under the LCFS, just like DAC projects currently can do.

As described above, approaches like Brimstone's that utilize natural carbon mineralization pathways offer highly efficient, enduring, and scalable methods of carbon removal. Strategies to remove carbon from the ocean may require less energy than removing carbon from the air, or in the case of mineralization, offer greater efficiencies for carbon removal and sequestration. Broadening the definition of eligible DAC projects and related CCS references to encompass additional promising carbon removal strategies by reference that may be adopted by the Board in the future will help to unleash solutions with significant potential for a widespread impact, which will be needed to achieve California's carbon neutrality objectives.

Conclusion

Thank you again for the opportunity to comment on the proposed LCFS amendments. We look forward to working with you and other stakeholders through the LCFS amendment 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