



January 7, 2022

California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Comments to CARB Workshop on Potential Future Changes to the LCFS Program on December 7, 2021

Charm Industrial (Charm) appreciates the opportunity to submit comments to the California Air Resources Board (CARB) in response to the December 7, 2021 Public Workshop on Potential Future Changes to the LCFS Program.

Charm is a California-based company working in support of state efforts to rapidly drive down greenhouse gas (GHGs) emissions on the path to carbon neutrality. Our innovative negative emissions technology can play a key role in these efforts. We look forward to continuing to work with CARB and its state agency partners to deliver innovative climate solutions that will provide benefits in California and beyond.

About Our Technology

Charm has developed a proven technology that has already removed thousands of tons of carbon from the atmosphere. Our innovative approach converts waste biomass via pyrolysis into carbon rich liquid that is safely and permanently stored underground. During the process, potash and similar nutrients are returned to the soil, which increases the soil carbon content and improves soil health. Agricultural waste and highly combustible forest residue that would otherwise burn or be left to rot spewing GHGs into the atmosphere is instead transformed into a carbon benefit. In addition to the vital climate benefits that negative emissions technologies like bio-oil sequestration provide, our approach can deliver critically needed air quality, wildfire resilience, and economic benefits in parts of California that most need them like the Sierras and the Central Valley.

Carbon Removal Can Play an Important Role in Achieving Carbon Neutrality

The recent Sixth Assessment Report by the Intergovernmental Panel on Climate Change¹ underscores the urgent need for collective global action to rapidly cut GHGs. California has been a global leader in efforts to combat climate change for decades. CARB has spearheaded many of these efforts through the design and implementation of innovative policies and programs that have driven down GHG emissions, supported the development of new, cleaner technologies, and delivered a range of other economic and environmental benefits for Californians.

¹ https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf

Future LCFS Program Changes Should Include Innovative Carbon Sequestration Technologies

Currently, the LCFS rules do not allow for new and innovative technologies like bio-oil sequestration to be credited. To meet state climate goals, including carbon neutrality by 2045, and continue its key role as a global climate leader, California must build on and accelerate actions to cut GHGs. These actions must include a clear and robust policy and regulatory framework that will support and take advantage of the significant benefits that innovative carbon removal technologies can deliver. As shown by CARB analysis presented at the August 2, 2021 public workshop² and those of other experts, California will not successfully achieve its climate goals without these technologies. As such, the LCFS should be modified to incent and credit Charm's approach to removing CO₂ from the atmosphere. We recommend that the current LCFS regulations be expanded in the existing CCS Protocol to encompass bio-oil sequestration. Alternatively, CARB can develop a comparable protocol that is focused solely on bio-oil sequestration.

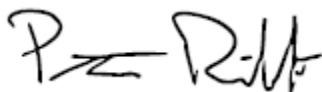
As other states begin to examine establishing a carbon-credit program and CARB begins the process to update its LCFS Program, we recommend close coordination between the states to ensure consistency between programs that would enable new and innovative carbon sequestration technologies to participate in all markets.

Conclusion

Charm is fully committed to helping California meet its climate goals. Our company was founded with the singular purpose of developing and bringing technology solutions to the collective effort needed to rapidly turn the tide against climate change. The LCFS update is a key opportunity for California to take full advantage of the role that carbon removal technologies can play in meeting the state's climate goals.

California has long been a leader in developing creative programs to cut GHG emissions that have been modeled by jurisdictions across the world. The potential application of Charm's technology can support climate, biomass, forest management and economic development and air quality goals in the state, including in rural areas if appropriately supported through state policy action. As CARB continues to work on the LCFS update, we look forward to continuing to work with you and to provide input into the establishment of an effective regulatory framework.

Sincerely,



Peter Reinhardt
CEO