

Biochar technology to sequester billions of tons of CO₂

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This CDR champion industry, biochar, has proven technology that can quickly grow to sequester billions of tons of CO₂. However, the industry has growing pains it must overcome to reach its extraordinary potential, James Gaspard, CEO of Biochar Now LLC, reveals

Biochar is a high-carbon content, charcoal-like material created by the pyrolysis process. The pyrolysis process is a chemical reaction resulting from heating biomass in a low or no-oxygen environment. Pyrolysis locks in the carbon that would have naturally returned to the atmosphere from the biomass rotting in the forests and farm fields or burning in the presence of oxygen.

Many different companies have surfaced recently and claim to be pyrolysis technology providers. As expected, the newly available production technologies produce varying quantities and qualities of biochar. The good news is that all biochar's have the potential to sequester carbon with the proper application of each specific biochar.

The International Biochar Initiative reports that the biochar industry accounts for 94% of delivered carbon removal credits in 2023. The biochar industry has a fantastic base to grow from with its initial burst from the starting gate. While many different industrial and building products use biochar, it will end up sequestering billions of tons of CO₂ from our atmosphere, and that is where most of the poorer quality biochar will be used; most people hear about biochar use as a soil amendment.

Biochar fighting climate change in agriculture

Biochar has several roles in fighting climate change when used in agriculture. Most importantly, biochar improves soil health by improving water retention, nutrient availability, and soil structure. Biochar boosts overall soil fertility. Using biochar allows communities to grow healthier crops while reducing the need for chemical fertilizers.

As an added environmental benefit, biochar has been discovered to reduce agricultural emissions. Biochar not only reduces CO₂ emissions but also helps lower other harmful greenhouse gases like methane and nitrous oxide, which are often released by agricultural activities.

Amending soil with biochar began thousands of years ago in the Amazon Basin, where areas of rich, fertile soils called terra preta (dark earth) were created by Indigenous people. These soils continue to "sequester" carbon today after thousands of years and remain so nutrient-rich that they are dug up and sold as potting soil.

To reduce one of the industry's major growing pains, all new biochar producers must do their due diligence and not believe everything the production equipment supplier tells them. They need to recognize that not all biochar's have the same properties. The key chemical and physical properties of biochar are greatly affected by the type of feedstock and the conditions of the pyrolysis process.

While all the different quality biochar's may sequester carbon, they will behave quite differently when placed in the soil for agricultural uses, and this affects commercial sales if the customer is not properly educated. This lack of customer knowledge and wide divergence of biochar properties will continue to drag on our acceptance in the agricultural industry as some biochar producers continue to overstate the actual properties of their specifically produced biochar today.

Making carbon sequestration real

Another growing pain in our industry to address is how we can guarantee that what we are doing in the carbon sequestration area is real, given all the various qualities of biochar's in the marketplace. Given the high quality and unique properties of the biochar we produce, Biochar Now has decided to take a different approach to marketing the biochar carbon credits we make from our patented technology.

While dozens of carbon credit trading registries trade many millions of dollars' worth of biochar carbon credits in the carbon markets, we decided to create an insured carbon credit program for both Biochar Now's future and currently produced carbon credits.

As a result of our efforts, we have successfully attracted one of the world's largest reinsurers to provide coverage for our insured carbon credits. Biochar Now's insurance program ensures the creation of our biochar carbon credits and the realness, additionality, permanence, and exclusivity of our carbon credits. Our insured carbon credit program also provides insurance against devaluation, degradation, deterioration, or invalidation of a Biochar Now biochar carbon credit by a recognized government regulatory authority for the life of the carbon credit.

While it took almost two years to create Biochar Now's insured carbon credit program, we believe it came online at the right time, especially considering the tone of the Final Guidance recently issued by the Commodity Futures Trading Commission ("CFTC") in Washington, DC. The report prints out to approximately 100 pages and was put out to provide guidance to help promote transparency and liquidity in the carbon credit market. Many of the largest carbon credit brokers in the world submitted comments to the CFTC, and the CFTC published some of their comments in the report to support their guidance.

The carbon credit brokers' comments gave a common argument that the core competencies of the carbon credit brokers lie in the markets, and they may not have the in-house scientific or technical expertise needed to comprehensively evaluate the actual carbon sequestration of the credits they are being supplied to them by the carbon credit producers to trade. They did not want the CFTC to impose an obligation to independently confirm the sufficiency and adequacy of a producer's carbon credit program.

These obligations are specifically what Biochar Now embraced with our insured carbon credit program. Biochar Now believes that for the markets to operate efficiently, purchasers of biochar carbon credits must know they are buying real carbon sequestration without any financial risk.

Financial stability to the owner of the insured carbon credits

Biochar Now's insured carbon credits are audited and verified by top audit firms in the industry. Our insurance program is filed with the Department of Insurance. As a filed insurance program, it is subject to regulatory oversight and compliance with financial standards. We utilize reinsurance to financially back the carbon credits that are insured.

The Biochar Now program provides financial stability to the owner of the insured carbon credits. Through innovations such as this insured carbon credit program, Biochar Now will continue to work to help the biochar industry overcome its growing pains and reach its potential to permanently rank as the top CDR-delivering technology in the world.

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