



dozens of creditable strategies focused on avoided emissions and/or carbon sequestration. Regardless of the type of process involved, each project is standardized to metric tons of CO<sub>2</sub> equivalents.

### The Crediting Process

The general process for all crediting strategies, termed methodologies, is to compare a baseline emissions or sequestration pattern with a proposed new amount of emissions or sequestration. The difference between the two, calculated over time, is the basis upon which the credits are awarded. Once awarded, usually with some sort of reserve set aside for insurance purposes, those credits can be recorded into a public registry for



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registries to sell biochar-based credits. Both are relatively simple, rely on third-party audits of the biochar production process, and have reasonably low overhead costs.

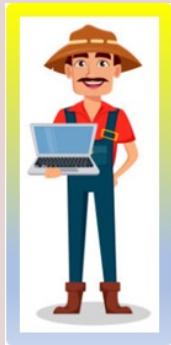
Advertised prices for biochar credits are very high relative to other carbon markets. While advertised prices are often higher than actual sales prices, there still appears to be a premium in the market for the relatively simple concept of direct carbon sequestration. Since a metric ton of biochar with an 80% carbon content equates to 2.9 tons of CO<sub>2</sub>, and current prices are exceeding \$50/ton, the total value to biochar producers is potentially substantial.

### The Role of Standards Organizations

Once registering biochar credits, they must be validated by a standards organization before they can be sold. Two important standards organizations are in the process of developing methodologies. Verra is the steward of the Verified Carbon Standard, and they have submitted a methodology for public comment. Verra endorsement is an important step

forward for the wider adoption of biochar-based carbon offsets. The California Air Resources Board (CARB) has also announced the formation of a committee to develop a methodology. That step is important since the CARB system is a regulatory program that many other regulatory programs follow closely.

The future of carbon finance for biochar production and use looks very bright, and every biochar producer should pay close attention to market development.



### BIOCHAR LEARNING CENTER (BLC)

Our Biochar Learning Center database on the [USBI website](#) continues to grow! Check out the most current and useful articles, websites, videos and other resources.

### USBI YouTube Channel



*Find free educational videos, books, podcasts, and more.*

### Featured September Resource

#### **Biochar Can Sequester Carbon In Soil – So Why Aren't Farmers Using It ?**

This webinar is hosted by two leading biochar researchers, Dr. David Laird, N-Sense Inc. President and Professor Emeritus Iowa State University, and Dr. Jim Amonette, of the Pacific Northwest National Laboratory and Washington State University. Learn what biochar is, how it

works, and what needs to happen for biochar to reach its potential in an integrated biochar-bioenergy industry. The September 10 webinar was sponsored by the Congressional Soils Caucus and hosted by the Soil Science Society of America.

### ANNOUNCEMENTS AND OPPORTUNITIES

#### ---- Bid Opportunity for Biochar Educator ----

The Nebraska Forest Service and USBI are seeking a contractor to prepare educational documents that address barriers to biochar commercialization and adoption in seven key market sectors. The position will be funded through our recently awarded USFS Wood Innovations Grant (WIG) with the goal of providing more specific biochar market development and producer and end-user education. [Download the RFP here.](#)

The ideal bidder will have knowledge of the biochar industry and a strong science communications background. He or she will work with the USBI Education Committee and sector-specific steering committees to develop:

- **Fact Sheets:** Introductory and topic overview information.
- **Roadmaps:** Strategic outlines of barriers to developing a market sector. Roadmaps what biochar producers and/or end-users (markets) need to scale-up.
- **Use Guidelines:** Could take the form of case studies, including best uses, application methods, rates, frequency, seasonality, and ideal biochar characteristics.

Bids will be evaluated in terms of their responsiveness to the RFP and proposed outcomes and must be received by USBI Education Committee Chair Heather Nobert by **September 30, 2021**. Please enter Biochar Educator in the subject line.

## ROLLING OUT THE GREEN CARPET FOR NEW USBI DIRECTORY MEMBERS

A big USBI directory welcome goes out to carbon credit consultancy, Ipsum Advisors LLC in Del Marva, CA and CO2 removal certificates buyer, Vergent Power Solutions in Woburn, MA.

We hope your listing brings you lots of new connections!

Add your USBI listing - [HERE](#). After review, your listing will be published in the USBI Biochar Directory.



## BIOCHAR NEWSLINKS

➤ **Opinion: One Critical Step to Limit Warming to 1.5 Degrees.** Chuck Hassebrook, leader of the Biochar Policy Project of the National Center for Appropriate Technology, says: “The IPCC has made clear that carbon removal is imperative. There is now a window of opportunity to advance federal policy to address climate. We must seize the opportunity to advance biochar as the most promising agricultural strategy for carbon sequestration and a critical step to limit warming to 1.5 degrees.”

➤ **Congress Must Act to Save our Food from Climate Extremes.** Benjamin Z. Houlton, Dean of Cornell University’s College of Agriculture and Life Sciences, calls on Congress to increase agriculture research funding to address climate change and food security. One promising avenue is to use biochar to increase carbon sequestration in soils and improve crop yields.



➤ **Cashing in on Cow Manure.** Cornell University researchers are growing great crops with charred cow manure, showing how saving nitrogen by charring dairy waste can save farmers money: The available dairy waste in New York, if pyrolyzed, is equivalent to 11,732 to 42,232 metric tons of nitrogen, valued at \$6 million to \$21.5 million annually. This can satisfy 23% to 82% of New York State’s need for nitrogen fertilizer.

⏪ **Ithaca’s Bio365 LLC soil scientist Margaret Ball tends to plants grown in biochar made from manure.**

➤ **Washington State Wine Commission Bets on Biochar for Sustainability.** Research priorities for wine grape growers and vintners will focus on sustainability issues from discovering ways for wineries to reduce winery wastewater and waste to studying biochar for optimal vine and soil health. The commission will launch a sustainable certification program in 2022.

➤ **Can This Ancient Process Help Bring New Hope? Listen to this BBC podcast** from biochar pioneer and USBI board member Josiah Hunt. Hunt supplies biochar to customers across California and says that, along with capturing carbon and improving the soils, his company is removing liability wood to reduce forest fires and helping to produce green electricity.

➤ **Forest to Farm Group Finds Hope Against Wildfires with Biochar.** Through nonprofit C6 Forest to Farm in Washington, the McCoys plan to accelerate forest restoration by creating a market for small-diameter trees that are a symptom of unhealthy forests and fuel for giant fires. They’ll make biochar from trees

cut down during forest thinning to help reduce emissions created by raging wildfires and burning slash piles.

C6 Forest to Farm board members monitor their small-scale research pyrolyzer. »



» **Biochar Policy Project Aims to Scale Up Rural Climate Solution.** Montana watershed landowners, in partnership with The Nature Conservancy, recently received a \$288,000 grant from the State of Montana Forest Action Plan to reduce the risk of severe wildfire around rural communities. About 1400 tons of unmarketable materials such as tree tops, limbs and small diameter trees, which traditionally would have been burned on site, will be turned into biochar through a pilot project using various technologies.

« Dave Atkins (left) joins other forest landowners in Montana's Blackfoot Valley as part of an alliance to make biochar from forest debris.

» **GoBiochar: Climate Resilience and Restoration Using Biochar.** GoBiochar's John Webster views biochar as a tool through which people can actually get their hands on change. "Biochar checks every box and does it for the right reasons," he says. In Utah, he is building a successful biochar business by telling stories — "We have to begin telling the story of using the resources we already have above ground." Webster wants to reach the generations who will have to deal with the serious repercussions of climate change. "Instead of shouting in the wind about climate frustrations, they can get their hands on things and know that they are making a real impact."



GoBiochar's John Webster of gets his hands on a climate solution - biochar.

» **Biochar Displaces Paper as Use for Wood Chips.** Standard Biocarbon is starting up operations to make biochar at a former paper mill in Maine. The company will convert 12,000 tons of wood chips into 3,000 tons per year of biochar. "There's more demand for carbon removals now than there is for paper," said CEO Frederick Horton.

» **Pyrolysis and PFAS.** Water and Wastes Digest offers this overview of PFAS in biosolids. Heat can destroy these persistent organic pollutants, but high temperatures are a must, making high temperature gasification the most likely method to generate useful, clean biochar from biosolids.

----- promotional section -----

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