US BIOCHAR INITIATIVE JUNE 2024 NEWSLETTER Rolling into Summer!

JUNE 2024 Newsletter
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US Biochar Initiative
biochar.org

Jumbo PyroDry - US Installation

Bethel, PA Facility

Putting Biochar to Work!

Our biochar community has become creative in developing new markets for biochar. USBI promotes the production and use of biochar daily with consumers, producers, and supporting organizations. There are now excellent examples of large producers using biochar in urban and agricultural applications. Some producers report innovative uses of biochar like managing effluents in dairies. Biochar is being utilized to enhance the performance and carbon footprint of ceiling tiles. Some new facilities are producing advanced carbon products, while others are recovering bio-oil to sequester carbon or offset fossil transport fuels.

More diverse agricultural residues, like pistachio and sunflower hulls and pecan shells, are also being used. Public works and parks departments are discovering biochars and biochar-amended composts. Small-scale systems to carbonize urban wood are being deployed in the cities of Lincoln, Nebraska, and Minneapolis, Minnesota. Landscape architects show increased interest in urban wood recyclers and composters. USBI participated in a recent **discussion** focusing on the benefits of biochar in soils and how landscape architects can specify it in projects.

Biosolids carbonization systems are in the planning and construction stages. A system in Bethel, Pennsylvania, has recently started up. USBI helped a Midwestern farmer commission a biosolids **carbonizer** for use on his farm. He has applied biosolids on his farm for thirty years. The carbonizer will allow him to apply the biosolids more efficiently. Initial germination tests have shown the biosolids biochar to be more effective than wet biosolids. This system will reduce odor and traffic issues while providing a service to community wastewater treatment plants by destroying the “forever chemicals” of PFAS.

In California, projects like Earth Foundries are demonstrating the usefulness of mobile carbonizers and are seeing an increased demand for them. Water consumption has been reduced and biochar yields have increased in the newer models. Our monthly **Biochar in the Woods** forums show how small scale place-based biochar solutions can reduce wildfire hazards.

USBI is collaborating with the Center for Watershed Protection on a "**Scaling Up Biochar**" project to demonstrate the use of biochar in stormwater facilities to prevent nitrogen, phosphorus, and solids from entering Chesapeake Bay. The project aims to lead to the incorporation of biochar into Chesapeake Bay Program Best Management Practices like those described in our **factsheet**, in a recent **Biochar in Stormwater Management** webinar, and a CWP webcast that we presented with Ed Matthiessen of Stantec. Former EPA administrator Dr. Dominque Lueckenhoff will report on biochars for pollutant removal at an upcoming **webinar**.

USBI hosts a working group with 15 biochar producers and researchers who are working together to develop North American laboratory standards for testing biochar, with the intention of making these standards affordable and accessible to a wide range of laboratories.

We can expect markets to grow as we continue to discover cost-effective ways to use biochars to meet customer needs.

Tom Miles
Executive Director

The Growth and Challenges of Biochar in Carbon Removal

Recently, I had the pleasure of being interviewed by the team at Nori (a marketplace for removing carbon based in Washington state) for their **Carbon Removal Newsroom** podcast. I shared an optimistic view of biochar, both as a carbon removal technology, but also as a way to manage waste biomass and create valuable products.

Biochar has been making significant strides, representing 94% of durable carbon removal deliveries in 2023. This growth is a testament to its robust technology and wide accessibility. Our **2023 Global Biochar Market Report**, supported by over 1,000 respondents, reveals that biochar is not only technologically ready but also competitively priced, making it a compelling option for carbon removal.

Despite this growth, the biochar industry faces challenges that need to be addressed to reach its full potential. One significant hurdle is the monetization of co-benefits. Biochar production creates various revenue streams, including carbon credits, physical biochar sales, energy production, and waste management services. Leveraging these four revenue streams is crucial for biochar projects to succeed, and each producer will develop their own particular combination. **Developing high-quality products** that incorporate biochar, such as fertilizers and concrete additives, is crucial to increasing revenue from physical biochar. **Focusing on high value energy products** derived from pyrolysis gasses, like liquid fuels and chemical precursors, can also increase biochar producer revenue. **Identifying waste biomass sources with high disposal costs** can also turn feedstock costs into a revenue opportunity, particularly in industries such as waste management, wastewater treatment, and agricultural processing.

Looking ahead, I see both a near-term future for biochar as a shovel ready solution, but also a longer-term future where biochar companies thrive with sophisticated business models to leverage these value streams. Combined with increased policy support, corporate and government partnerships, and the underlying march towards decarbonization I expect the industry's growth will accelerate.

At USBI, we aim to support this new future by focusing on developing markets for physical biochar, to increase the value of biochar as a physical material. We are working hard to develop a comprehensive market development approach, starting with soil and agriculture which currently drives biochar sales, and then expanding into other end use markets.

Listen to the Nori Podcast

Myles Gray
Program Director

USBI Requests Continued Support of Biochar in CSAF Activities List

Recently, **USBI submitted a letter to the USDA NRCS** Climate Office in response to a public request for information, advocating for the continued inclusion of Conservation Practice Standard 336 - Soil Carbon Amendment - in the **Climate-Smart Agriculture and Forestry (CSAF) Mitigation Activities List**. The NRCS Conservation Practiceson this activities list provide access to funds made available through the Inflation Reduction Act.

Our letter emphasizes the importance of biochar as a key climate-smart practice that is effective, compatible with various crops and cropping systems, and long-lasting, even in the face of future changes in agricultural practices. Biochar is one of the best methods for permanently sequestering carbon in soils and providing long-term improvements in soil health including improvements in soil organic matter, soil micro-organism habitat, and improved aggregate stability.

Our aim is to ensure that biochar remains a recognized and supported practice within the CSAF until it can be fully integrated into the **COMET greenhouse gas model***, which is required for a practice to be included as a permanent climate-smart practice.

We acknowledge that continued support will facilitate the growth and adoption of biochar, thereby contributing to more sustainable agricultural practices and effective carbon removal solutions.

Read the letter and learn more on this topic on our **website**.

* For those unfamiliar with COMET, it is a NRCS tool set that allows you to evaluate the potential carbon sequestration and greenhouse gas reductions from adopting any NRCS Conservation Practices. Biochar is still an unknown material in this system. There are projects actively under way to address this including the **Biochar Atlas** project led by the USDA ARS.

Learn more on the USBI website.

Outreach and Education

2024 New York Soil Health & Climate Resiliency Field Days - Learn with Debbie Aller, USBI Board Member!

Biochar Field Day Hudson Valley – Columbia County, Germantown, NY
June 25, 2024

Debbie Aller shares these great images from a recent field installation of biochar and compost featuring 25% biochar. Farmer applies to field with fertilizer spreader.

Applied at equivalent of 10 Tons per acre. Will be planted to beets.

Hearty Roots Community Farm - "Providing fresh food for our neighbors in the Hudson Valley and New York City since 2004."

Hands-on learning and expert insights ensured participants were given the tools to enact positive change on their farms and communities. Attendees were able to network, exchange ideas, and explore innovative solutions to pressing agricultural challenges.

Learn about more NY Soil Health Events Here

2024 CDR Salary Survey

CDR (Carbon Dioxide Removal) is a brand-new industry. We have the opportunity to develop it in a fair, equitable, and accessible way from the start. This requires understanding the status quo. For this reason, CDRjobs recently completed the 2024 CDR Salary Survey. Several hundred people completed the survey. This included biochar industry workers. We look forward to the insights in their July report.
Follow **CDRjobs.earth on LinkedIn** to keep up to date.

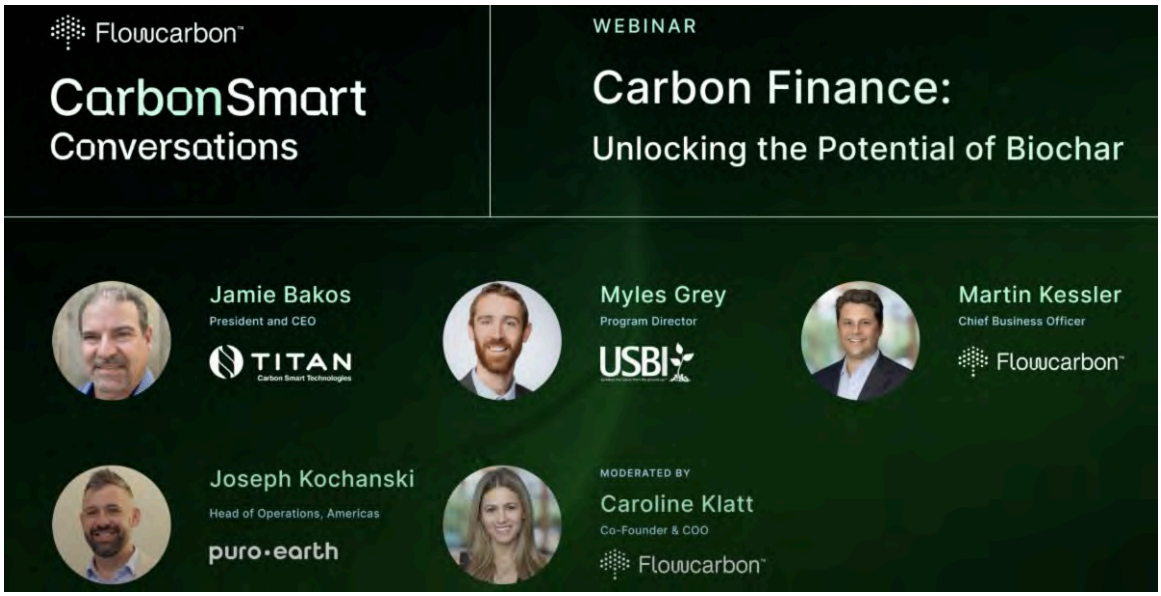
SPECIAL OFFER FOR USBI SUBSCRIBERS

Kelpie Wilson's latest book, The Boichar Handbook, is hot off the presses and publisher Chelsea Green has generously provided USBI with a -35% discount code for our subscribers. Use code CGP35 when ordering on the publisher site.

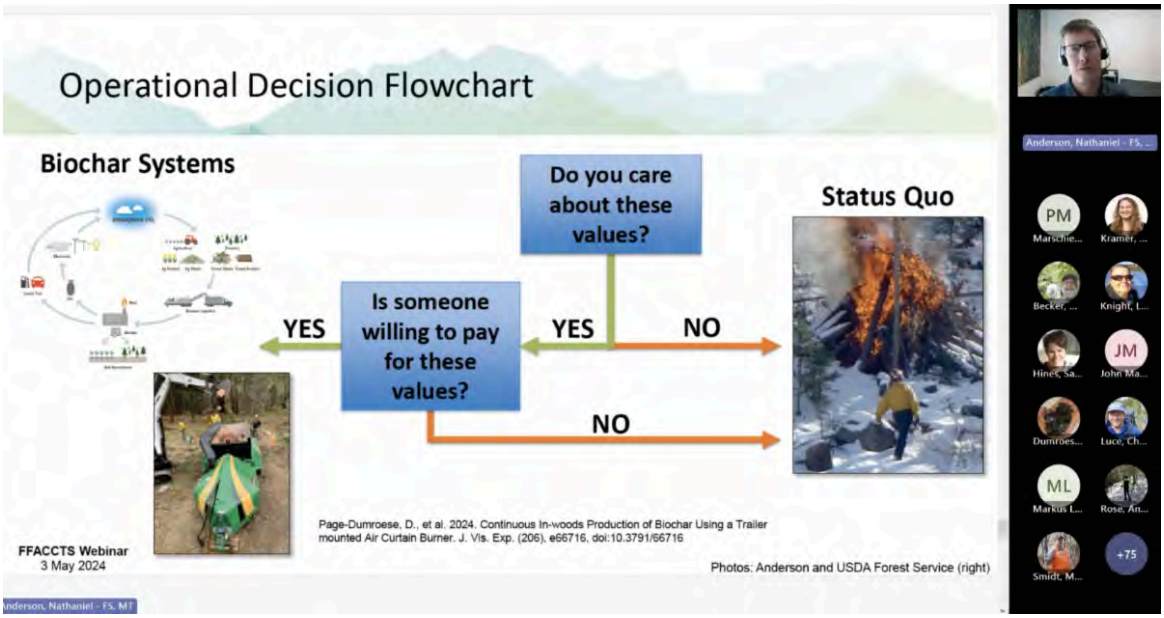
Order your copy of The Biochar Handbook

What to Watch

[Carbon Finance: Unlocking the Potential of Biochar - Webinar] | **Flowcarbon - CarbonSmart Conversations -** Featuring Myles Gray, USBI Program Director



[Mobile biochar production from forest biomass as a site restoration and climate change mitigation tool] | **Presented by Nathaniel Anderson, Research Forrester from USFS Rocky Mountain Research Station** Watch to learn how biochar can help accomplish both public and private land management and climate change mitigation goals by reducing wildfire risk, mitigating pile burning impacts, improving soils and sequestering carbon.



[WGA - Boise Workshop: Climate-Smart Agriculture w Myles Gray] | **Western Governor's Association -** Watch Myles Gray, USBI Program Director, represent biochar as climate smart agriculture opportunity in the West. Recorded December 2023.

Join the USBI Directory Services!

We are building **the most comprehensive biochar directory** for the US market.

Join the directory, search the directory, and use the directory to connect with others in the North American biochar network. Together we are putting the world's carbon budget back in the black!

Welcome to Offstream , RMS Roller-Grinder, and Inlandsis - the newest businesses to join our directory!

Contact john@biochar-us.org with questions.

Get Your Directory Listing

Reading List

Farmer's guide to production, use and application of biochar. | **ANZ Biochar Industry Group**

Comprehensive Science Review Shows Fuel Treatments Reduce Future Wildfire Severity | **USDA Forest Service Rocky Mountain Research Station, The Nature Conservancy & University of Montana** TLDR; This 30 year research project indicates that "Yes, it works" Lots of biochar opportunity.

The Biochar Handbook | New release by **Kelpie Wilson and Chelsea Green Publishing** - Be sure to take advantage of the special **35% discount with code CGP35** when ordering from publisher.

Biochar Events Calendar

Connect and collaborate at in-person or online events!

July - September 2024

July 10 12:30 – 1:30 pm
Biochar Project Finance Webinar: What's Available Today and Where Do We Want to Go? | **Sponsored by the International Biochar Initiative and Kita, a Global (re)insurance & climate risk company** | *Follow this link to register*

July 10 12 – 1 pm EDT
Advancing Sustainable Stormwater Management in the Chesapeake Bay Region: Use of Innovative Biochar Technology for High Performance, Climate-Friendly Green Infrastructure | **Sponsored by the Chesapeak Stormwater Network** - Featuring Dominique Lueckenhoff | *Follow this link to register*

August 14 &15 - program is 2 full days
Mexico Carbon Forum | MÉXICO2 & GTO Secretaría de Medio Ambiente y Ordenamiento Territorial
Location: Guanajuato, MX - follow link to register

September 23 - 24
NYC CLIMATE WEEK event with USBI & Grain Ecosystem Sponsored by USBI and Grain Ecosystem | Join the premiere biochar climate event at Climate Week!
Location: NYC, NY - Details coming soon!

September 24 - 26
Great Plains Biochar Conference Sponsored by The University of Nebraska–Lincoln Department of Agronomy and Horticulture, the Nebraska Forest Service and the Nebraska Biochar Initiative |
Location: Lincoln, NE - follow link to register

Looking for biochar industry career opportunities?

Check out LinkedIn for sales, research, internship postings, and more!

Davey Tree hiring biochar production system operator.
Harshal Kansara - RIT PhD Candidate seeks biochar position

Biochar Newsbytes

Courtesy of Frontiers in Environmental Science

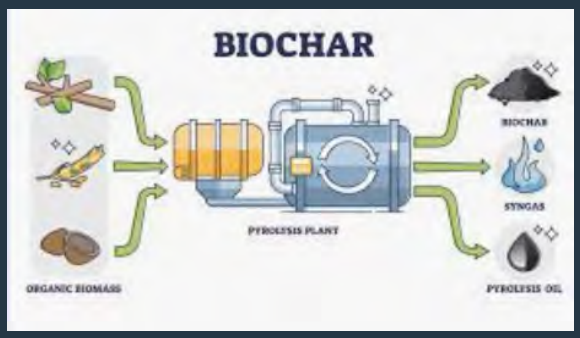
Encouraging Study Shows Biochar Can Remove Microplastics from Run-off Biochar removed microplastics from runoff by from 86.6% to 92.6%, according to a study published this month by “Frontiers in Environmental Science”. More studies are needed to substantiate these results.

« Electron microscopy scan of sugar cane biochar

Why Do Certain Biochar Manufacturing Processes Produce Harmful Substances? This study from "Biochar Today" calls for a better understanding of the interplay between feedstock properties, processing conditions, and harmful emissions.

Biochar – Thumbs Up on Reducing Manure Odors but What About GHGs? A University of Wisconsin-Platteville study explores the question.

Maine Biochar Company Considers Extracting Hot Air and Gasses to Dry Lumber and/or Generate Power
Most of the biochar sold by the Greenville plant has been for agricultural applications but owners want to leverage biochar's versatility by also selling carbon credits.



Courtesy of Fast Tech

Two Neighbors Bring Biochar to Ole Virginny The "nothing goes to waste" principle - where animal manure and trout scraps are used to fertilize crops - goes back generations for these two biochar entrepreneurs.

« Wastewood awaits pyrolyzing while SWVA Biochar's co-owner Jeff Wade explains the operation. Photos courtesy of Jimmy Davidson

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