
June 2009 International Biochar Initiative News



Notes from the Executive Director

By Steve Brick.

"Bringing biochar into the mainstream" is shorthand for IBI's mission. What do we mean by that, exactly?

Biochar production systems need to be developed and scaled across a range of potential applications, from the smallest to the largest. In order to do this, we need pilot projects--many, many more than we have at the moment. And to proceed with projects, developers need capital. Lots of it. And the challenge is that, for the most part, biochar production systems cannot be financed conventionally, because markets don't pay for all of the benefits that biochar production systems deliver. In fact, at the moment, markets don't pay for most of them.

In many countries there is no price signal for carbon, so biochar's sequestration benefits go unrewarded. Waste biomass disposal is often unpriced or underpriced, so, there is no economic incentive to use these feedstocks to produce biochar. Until these market imperfections are fixed, biochar production systems will have difficulty standing on their own.

Developers also face a host of regulatory hurdles. Production systems require environmental approvals, and the permitting process can be both costly and time-consuming, especially for new technologies. Widespread use of biochar as a soil amendment is likely to require regulatory approval as well, and this could be a protracted process. New technologies are almost always scrutinized for potential safety risks, and biochar production systems will be no exception as regulators insure that workers are protected.

Like all new technologies, biochar production systems face what is called the "valley of death"--the gap between promising research results and full commercialization. Most technologies don't make it through the valley, and disappear or languish for years--or for decades. More than a year ago, a Reuters news story quoted Dan Reicher (former Clinton Administration Official and now head of Google Inc's green energy efforts) on this problem: "there are even more technologies hitting the Valley of Death and in need of capital... we have a long way to go before we have really cracked the code on this." In the intervening year, markets have tumbled, the global banking system has been brought to its knees, and the world finds itself in the worst economic downturn since the Great Depression. The Valley of Death has become an even bleaker place.

In spite of all this, I'm optimistic about biochar's future. Here's why.

First, I believe that prospects are improving for policies that monetize environmental benefits. The US House

Committee on Energy and Commerce recently passed the Waxman-Markey American Clean Energy and Security Act, which would put a price on carbon and create incentives for clean energy. If the full Congress follows suit, this could provide an important boost for biochar. In December, the nations of the world will gather in Copenhagen to hammer out a successor to the Kyoto protocol. An early negotiating draft of the text includes language favorable to biochar. IBI played a role in getting this language into the draft, and we will continue to work to make a role for biochar in a global agreement to reduce emissions.

Next, funding for basic biochar research is growing. The Australian government recently approved more than AUS\$1 million for biochar research. The US stimulus package authorizes funding that could be used to promote biochar projects. IBI is working to build support for additional biochar research in the US budget process, and will look for other opportunities to play a role.

Finally, biochar's compelling story continues to attract favorable attention, and the number of biochar supporters continues to grow. Now it's our job to capitalize on this moment and help propel biochar through the valley of death, to find its place in the new, carbon-constrained economy of the future.

Update on IBI Activities and the UNFCCC Negotiations

Debbie Reed, IBI's Policy Director, will be in Bonn 7 - 13 June, 2009, for the next round of UNFCCC negotiations being held in anticipation of the COP-15 UNFCCC meeting at Copenhagen (December 7 - 18, 2009). Reed will continue to support the inclusion of biochar as an accredited climate mitigation and adaptation technology within the Copenhagen framework, along with colleagues at the UN Convention to Combat Desertification (UNCCD) and others who support biochar's role in combatting climate change.

The first draft of text for the Copenhagen framework, which was released in May, 2009, will be the focus of negotiations in Bonn. The draft text on Long-Term Cooperative Action Under the Convention (UNFCCC) contains the following paragraph on the role of agriculture, and biochar:

"Agriculture

134. Parties shall cooperate in R&D of mitigation technologies for the agriculture sector, recognizing the necessity for international cooperative action to enhance and provide incentives for mitigation of GHG emissions from agriculture, in particular in developing countries. Consideration should be given to the role of soils in carbon sequestration, including through the use of biochar and enhancing carbon sinks in drylands."

IBI is also hosting a booth at the UNFCCC Bonn negotiations, which will present information on biochar production and utilization systems, and IBI's role in promoting policies in support of sustainable biochar production and utilization worldwide.

Reed will also participate in a side event with the governments of Micronesia and Sweden and the Institute of Governance and Sustainable Development on strategies to combat climate change, where she will cover the promising role of biochar as a climate mitigation strategy.

The Bonn meeting is the second in five negotiating sessions for UNFCCC parties scheduled between the COP-14 session in December, 2008 in Poznan, Poland, and COP-15 to be held in December, 2009 in Copenhagen, Denmark. The unusual number of intermediate sessions is reflective of the import given to the task of successfully concluding negotiations in Copenhagen for a new framework to replace the Kyoto Protocol, which technically expires in 2012. For more information on these activities, please see:

<http://www.biochar-international.org/biocharpolicy.html>

Practitioner's Profile

Dr Paul Blackwell: Pushing the Frontiers with Biochar and Biochar Mineral Complexes in Arid Zones

Since 1989 Dr Paul Blackwell has been working to improve the soils in Western Australia. He is based in the northern wheatbelt of Western Australia in Geraldton. Dr Blackwell has been studying methods to improve productivity and land care of the area soils which have poor structure and water repellence. His initial investigations focused on methods of no-till seeding and Controlled Traffic. However, Dr. Blackwell's more recent investigations are into the value of biochar and biochar-mineral complexes.



At the 2007 IBI meeting in Terrigal Australia, Dr. Blackwell Paul presented his initial findings of his work with biochar produced from oil mallee trees. He developed a method of deep banding biochar into soils and then carried out a series of trials with soluble fertilisers and with a new mineral/biological fertiliser to see the impact on both increase in yields, increase in crop resistance to drought (from inter-row water supply), and increase in soil micro-organisms (especially fungi).

The first results were very positive-especially with the biological/mineral fertiliser-which resulted in increased yields, greater drought resistance, and increased root colonisation of fungi. Dr. Blackwell figured that the deep banded biochar probably helped the seed-applied microbes to survive better in a dry soil environment at planting.

For more on this story, please see:

<http://www.biochar-international.org/projectsandprograms/memberprojects.html>

A crop seeding system used to deep band biochar. Photo courtesy of Paul Blackwell

Updates on Regional Biochar Groups

If your group is not listed on the website, please send your information to info@biochar-international.org so you can be included in future reports. The groups listed below are both new groups and those who have sent updates (all information is also be posted on the IBI website at:

<http://www.biochar-international.org/regionalbiochargroups.html>).

Pacific Northwest Biochar Initiative (United States)

The PNW group held a two-day conference at the Pacific Northwest National Laboratory (PNNL) in Richland, Washington on May 21st - 22nd. More than 85 registered attendees heard presentations from scientists and practitioners. Thanks to our host, Dr. James Amonette, participants were treated to a tour of the PNNL Environmental Molecular Sciences Lab to see high-tech instrumentation used in characterizing chars. The group also saw a fast pyrolysis research reactor and visited biochar corn plots started by USDA ARS researcher Hal Collins.

A focus of the meeting was to look at sustainability standards for biochar. An open discussion and brainstorming

session began to identify some issues in our forested region of the Pacific Northwest. Participants also exchanged ideas about potential business models and marketing.

Meeting organizers John Miedema and Max deRungs would like to thank all of those who participated and offer a special thanks to PNNL and Washington State University for opening their doors to the needs of the group and taking the time to show what happens behind the curtain of advanced technology, chemistry and microbiology.

More information is at the PNW Biochar Forum at:

<http://groups.google.com/group/pnw-biochar?hl=en>

Terra Preta at Michigan Technological University Working Group (United States)

Among the Working Groups accomplishments this year, we offered a community presentation attended by local community members and gardeners in Houghton, Michigan. Our Science Research Team Leader, Amanda Taylor, is quoted in the February 2009 issue of [Environmental Health Perspectives](#), a journal dedicated to research on the impact of the environment on human health. Also, our Working Group won The Peoples Choice Award at Michigan Technological University's Sustainable Futures Institute Poster Session, and our Working Group is discussed in the 3.3.09 issue of Science News: [Getting The Dirt On Carbon](#).

Beginning in the fall, the Working Group will be part of Michigan Tech's D80 Center, which focuses its efforts on the 80% of people on the planet not typically considered by designers of infrastructure, goods and services.

For more information see our website at: <http://www.terrapreta.mtu.edu>

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