



News from the International Biochar Initiative

IBI is a non-profit organization supporting researchers, commercial entities, policy makers, farmers & gardeners, development agents and others committed to sustainable biochar production and use.

Help put the Earth **Back in the Black**

January 31, 2012

Looking Ahead to 2012

After another busy year, IBI is planning in 2012 to continue our focus on the successful commercialization of sustainable biochar endeavors that benefit soil health and productivity and combat global climate change. As part of this project focus, we will:

- Continue to support policy efforts which can increase support for biochar R&D, implementation, and commercialization at national and international levels.
- Finalize and publish the Guidelines for the Specifications of Biochars, and plan and implement the IBI Certification process based on the final published guidelines.
- Continue work on a Biochar Offsets Protocol for carbon markets, together with our partners, including The Climate Trust who is leading this effort.
- Work on developing successful biochar projects and viable markets in the Chesapeake Bay watershed (United States) with other partners in the area, seeking to address water quality and waste utilization, on-farm sustainability and economic opportunities, and other critical issues.
- Continue to publicize biochar news, projects, practitioners, events and research through our website, newsletter, and international, regional, and national conferences.
- IBI will also continue to support and participate in the many international biochar conferences, including the 2012 Biochar Stakeholders Workshop in New Zealand (February), the Biochar Symposium at the EuroSoil 2012 Conference in Bari, Italy (July), the US Biochar Initiative conference in Sonoma, CA, United States (July/August), and the 4th IBI International Biochar Congress in Beijing, China (September).

We at IBI extend our warmest wishes to you in this new year and look forward to continued successful collaboration and engagement with the global Biochar community. We hope you will continue to support us as we expand the services we offer. Help us raise the resources we need to support greater development of sustainable biochar—[please start a new membership or renew your existing membership today](#), and if possible, please consider contributing at a higher level. Thank you again for your support of IBI and biochar.

IBI Guidelines for Specifications of Biochars Update

Since September 2010, biochar practitioners, experts and stakeholders have joined IBI in the process of drafting and revising the Guidelines for Specifications of Biochars for Use in Soils. The process has been global, inclusive, and open to public review and comment throughout. Following the public comment period in October-November 2011, and with the help of the International Working Group, IBI posted a [revised Biochar Guidelines document for public comment and review](#). The current comment period remains open until February 10, 2012. After the comment period ends, IBI will review all comments and determine whether further revisions to the document are necessary. A final Biochar Guidelines document will be posted in March 2012. The process will culminate in a week-long balloting process for IBI dues-paying members to approve or reject the Biochar Guidelines.

IBI hosted three informational webinars in January that were attended by 143 participants from around the world. IBI staff and consultants reviewed the Guidelines document, explained changes in the revised Biochar Guidelines, and responded to many well-considered and constructive questions and comments from participants.

Some common themes and issues that have come up in the written comments and on the webinars include issues of costs, specific test recommendations, testing frequency, and questions about feedstock mixtures and changes. [Please click here to read the remainder of this update.](#)

IBI invites all stakeholders to engage in the further review and development of the Biochar Guidelines by submitting your comments at BiocharGuidelineIBI@gmail.com. Your comments will become part of the public record for this process. You can also find all of the latest information on the Guidelines and a history of the process and relevant documents on the [IBI website](#). IBI wishes to thank all who have so generously contributed their time, expertise, and thoughtful consideration to the development of this first set of Biochar Guidelines. We realize we are blazing new territory with this work, and your continued devotion, constructive input, and supportive guidance will result in a product that we can all benefit from.

New IBI Business Members: Biochar Solutions, CoolPlanetBioFuels, and WMAA

Biochar Solutions produces and sells engineered biochar and custom fabricated biochar products, provides development, marketing, and management support to distributed biochar businesses, and deploys continuous process industrial equipment that converts forestry products into biochar and bioenergy. For more information, please see: <http://www.biocharsolutions.com> or contact [Morgan Williams](#).



CoolPlanetBioFuels, based in Camarillo, California, has developed a technology that converts low-grade biomass into high-grade fuel and carbon. This process also produces a type of biochar, which can be used to both sequester carbon and act as a soil conditioner. For more information on CoolPlanet, please see: www.coolplanetbiofuels.com or contact [Mike Rocke](#) (Vice President of Business Development).



The Waste Management Association of Australia (WMAA) is Australia's leading Association for waste management and resource recovery industry businesses and professionals. WMAA plays a proactive role in developing and promoting improved industry standards for the waste management and resource recovery industry. For more information, please visit www.wmaa.asn.au or contact [Veronica Dullens](#).



A listing of all current IBI Business Members can be found on our website at: <http://www.biochar-international.org/IBI-business-members>. For more information on this membership or to join, please see: <http://www.biochar-international.org/join>.

New IBI Membership Category: Organization Members

IBI is excited to announce a new membership category designed for associations, non-profits, and other non-commercial institutions to support IBI and to showcase their work in biochar. Organization memberships are \$300 annually and come with all the benefits for professional members as well as a public listing on the IBI website under "Organization Members" with a logo and organization description, a highlight in the monthly newsletter, and advance notice of opportunities specific to organizations. For more information on this membership or to join, please see: <http://www.biochar-international.org/join>.

Profile: Switchgrass Biochar for Soil Restoration and Food Security

Ed Cahoj (pronounced "Cha-hoy") is a switchgrass and cattle farmer in southern Missouri, USA. According to Cahoj, he is not the only farmer in the region who is concerned about the long-term sustainability of agriculture and energy use as it is practiced today. "These things are on a lot of people's minds," he said, "but folks don't know what to do about it."



Cahoj started looking for solutions a few years ago and created a company, Liberty Biofuels LLC, to pursue bio-oil production through fast pyrolysis, but soon found he had a greater interest in the biochar co-product than the oil. He learned that it is hard to find the "sweet spot" that optimizes both biochar and bio-oil production and as a small farmer with limited resources, he decided to focus on biochar.

Biochar struck a memory chord for Cahoj, taking him back to his childhood on a row crop and cattle farm in Northwest Kansas. He remembers looking at a handful of soil and seeing bits of black carbon in it and asking his father: “When did a fire come through here?” Later he learned that the black carbon in the soil resulted from the long history of prairie fires that swept the Midwestern plains of the United States, creating conditions of heat and oxygen-starvation in the prairie grass root-zone where biochar was produced. This biochar accumulated over thousands of years of repeated burning, creating some of the most fertile soils in the world. [Click here for the remainder of this story.](#)

Photo: Switchgrass in the field; courtesy of Ed Cahoj.

Profile: North Vietnam Villages Lead the Way in the Use of Biochar; Building on an Indigenous Knowledge Base

By: S Joseph, D. D. Khoi, N. V. Hien, Mai Lan Anh, H. H. Nguyen, T. M. Hung, N. T. Yen, M F Thomsen, J Lehmann, C. H. Chia

Despite Vietnam’s rapid economic transition over recent years, the vast majority of the country’s rural population relies on fuel wood for lighting, heating, and cooking. Minorities in Vietnam make up about 14 percent of the population, but account for 44 percent of the country’s poor (CARE project document 2010). The majority of ethnic minorities live in Vietnam’s highlands, particularly in the north and many grow rice as their staple crop. Households that have buffalo or cows collect most of the rice straw as animal feed, while others collect the rice straw for use as a fuel. Most of the stubble is burnt in spring although some farmers burn during the winter. The burning emits a large amount of smoke; a small amount of biochar and ash are also produced, which remains in the field.



A group of stove experts and researchers working with CARE Vietnam are looking at how to improve soil health while reducing the amount of indoor and outdoor pollution from smoke. They are working on a project in two mountainous provinces in northern Vietnam, Thai Nguyen and Thanh Hoa—both with high ethnic minority populations. The overall objective of this project is to contribute to sustainable rural development in the upland areas of Vietnam by simultaneously addressing energy, poverty, and soil degradation constraints, contributing to national policies on poverty reduction, deforestation, and rural advancement. [Click here for the remainder of this story.](#)

Photo: Rollers and components for improved stove building; courtesy of CARE Vietnam

Biochar Briefs: News Roundup for January

We update the website daily with new articles on biochar. For more information, please see: <http://www.biochar-international.org/newsbriefs>

Australia

[The new Australian carbon tax](#) will help fund a collection system for green waste in the Richmond Valley. Plans to sell the material to a private venture group for biochar feedstock would also reduce costs to residents while keeping material out of the landfill.

[Waste-to-energy company Pacific Pyrolysis \(PacPyro\)](#) is seeking to raise between \$2.2 million to \$4 million from an initial public offer (IPO) of shares. It will list on the Australian Securities Exchange. The company produces biochar and energy with its slow pyrolysis technology.

[Inclusion of biochar in the Australian Carbon Farming Initiative](#) has stimulated the interest of farmers and agribusiness. The Australian Farm Journal is publishing reports on biochar in its January and February 2012 issues.

Canada

[The University of Northern British Columbia intends to become an off-grid fossil fuel-free innovation center](#) and has applied for grant funding to build a 30 million dollar biochar and energy production plant to help power the campus and provide biochar for research.

Denmark

[Scientists at Aarhus University are participating in the EU research project Refertil.](#) The Refertil project has received funding from the EU 7th Framework Programme. It started on 1 October 2011 and runs over four years. The total budget for the project is approximately 30m DKK, of which Aarhus University has received 3m DKK.

Germany

[Researchers at the Potsdam Leibniz-Institute for Agricultural Engineering are studying biochar](#) as a solution to reduce greenhouse gas emissions and improve degraded agricultural soils in central Europe.

India

[Sai Bhaskar Reddy Nakka has posted an article, "With Biochar Golden Crop"](#) from the Eenadu, Telugu Newspaper. He also reports that recently three TV channels have visited and documented the Biochar and Good Stoves initiatives by GEO - ETV 2, ABN and TV5.

United Kingdom

[A design for a carbon-negative "town-scale" power plant that would turn domestic waste and locally grown energy crops](#) into liquid biofuels and biochar has been named a runner-up in the Royal Institute of British Architects President's Silver Medal Award.

Sweden

[Lars Hylander at the Department of Earth Sciences at Uppsala University](#) has shown increased crop yields after two years of field trials in sandy soils. Interest in biochar in Sweden is growing

and proponents hope that a carbon tax can help fund further development.

United States

[A group of businesses in Missouri plans to re-open an old charcoal plant to produce mulch and biochar.](#) The new businesses will bring much-needed jobs to the area.

[New scientific information about soils](#) is shaking up long held assumptions about the stability of organic carbon in soils.

[Soil, water and air interactions will be the focus of a Soil and Water Management Seminar](#) sponsored by University of Illinois Extension-Bureau, LaSalle, Marshall, Putnam Unit on Feb. 16. Biochar is one included topic.

[National Public Radio reports on the archeological finds in Amazonia](#) that include Terra Preta.

[The magazine Fast Company interviews Jason Aramburu about his biochar](#) work in Kenya.

Highlight your work at the upcoming US Biochar Conference

The Board of Directors of the Sonoma Biochar Initiative invites you to submit an



abstract of your work in biochar for the upcoming USBI national conference (July 29 – August 1, 2012) at Sonoma State University in Rohnert Park, in the heart of California’s wine country. The conference will focus on the practical use and production of biochar at the community level and on what will be needed to bring biochar into the mainstream. This includes economic models and marketing strategies, policy innovations, agricultural implementation techniques, and cutting edge soil science. [Click here to submit an abstract](#); the deadline is February 10, 2012.

[Registration opens in February](#); the organizers will be offering significant savings for Early Registration as well as very affordable food and lodging rates to stay on campus in the Biochar Village. Northern California is the perfect place to plan an extended vacation with its rugged coastline, towering redwood groves, world-class wineries, and of course, the City of San Francisco, all within an hour’s drive of Sonoma State University.

Opportunities in Biochar

Opportunities in Biochar showcases announcements for the public to apply for funding, jobs, publications, conferences, etc. These announcements are also posted on the IBI website in two places: Biochar Updates and the Member Bulletin Board.

- Submit Grant Application: The Australian Government is seeking Grant Applications for Carbon Farming; Application Period **Closes February 8, 2012**. For more information, please see: <http://www.biochar-international.org/node/2988>.
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- Submit Abstract for Conference: United States Biochar Conference; **due Feb 10, 2012**. For more information, please see: www.2012.biochar.us.com/present.
- Apply for funding: United Nations Convention to Combat Desertification (UNCCD) Announces Land for Life Award: **due Feb 29, 2012**. For more information, please see: <http://www.biochar-international.org/node/3045>.
- Submit letter of intent: Looking for Biochar technologies for European Union Contest; **due Feb 29, 2012**. For more information, please see: <http://www.biochar-international.org/node/3098>.
- Submit Abstract for Conference: The International Symposium on Reclamation, Restoration and Rehabilitation Towards a Greener Asia call for presentation abstracts: **due March 31, 2012**. For more information, please see: <http://green-asia.blogspot.com>.
- Submit Abstract for Conference: 4th International Biochar Congress Beijing China 2012 announces call for presentation abstracts: **due March 31, 2012**. For more information, please see: <http://www.biochar-international.org/node/2985>.
- Submit Abstract for Conference: The European Geosciences Union General Assembly 2012 will have a session on biochar for soil remediation and global warming mitigation (Vienna, Austria from 22 – 27 April 2012). For more information, see: <http://www.biochar-international.org/node/2904>.

New job opportunities and PhD postings are updated at: <http://www.biochar-international.org/network/jobs>

Upcoming Calendar Events

- February 1, 2012: Biochar in Canada: Agricultural and Environmental Perspectives, Montreal, Quebec; more information: <http://www.biochar-international.org/node/3012>.
 - February 1: High-tech Compost – Advanced Biological Conversion Technology at SVII; Palo Alto, CA, US; more information: <http://www.biochar-international.org/node/3093>.
 - February 2: Canadian "Industry-Researcher Consortium" Workshop; Montreal, Canada; <http://www.biochar-international.org/node/3094>.
 - February 3, 2012: Biochar Colloquium, Biochar: Silver Bullet or Carbon Hype?; Chestnut Ridge, NY, United States; more information: <http://www.biochar-international.org/node/3017>.
 - February 9 – 10, 2012: 2012 Biochar Workshop: from Science to Stakeholders; location Massey University Palmerston North, New Zealand; more information: <http://www.biochar-international.org/node/2905>.
 - February 18: The Forest Economy: Growing Bioregional Business Niches; North Carolina, US; more information: <http://www.biochar-international.org/node/3097>.
 - February 29 – March 1: European Pellet Conference 2012; location Wels, Upper Austria; more information: <http://www.wsed.at/en/programme/european-pellet-conference>.
 - March 14 – 16: Fifteenth Anniversary Humic Science & Technology Conference; Boston MA, US; more information: <http://www.biochar-international.org/node/3096>.
 - March 21 – 23: Northeast Biomass Heating Expo; location: Saratoga Springs, NY, United States; more information: <http://nebiomassheat.com/registration.html>.
 - April 16 – 19, 2012: International Biomass Conference & Expo; location Denver, CO, United States; more information: <http://www.biochar-international.org/node/2690>.
 - April 22 – 27, 2012: Biochar for Soil Remediation and Global Warming Mitigation at
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European Geosciences Union General Assembly 2012; location Vienna, Austria; more information:

<http://www.biochar-international.org/node/2903>.

See the [IBI Calendar page](#) for more events. To add an event to the calendar, send the information to info@biochar-international.org.

Regional Biochar Group Updates

To read more on the 41 regional and national biochar groups, please see IBI's website at: www.biochar-international.org/network/communities. This month includes two new groups, the Montenegro Biochar Association and the Florida Biochar Initiative, and an update from the South East Asian Biochar Interest Group.

The Montenegro Biochar Association

The NGO ERGa is a registered non-profit association supporting Montenegro researchers, commercial entities, development agents, farmers, and others committed to supporting sustainable biochar utilization systems that remove carbon from the atmosphere and enhance the earth's soils. The Association was founded by representatives from Montenegrin commercial ventures with a general interest in promoting the research, development, demonstration, use and commercialization of the technology of biochar production in Montenegro.

We are interested in the transfer of knowledge; it is important to Montenegro because it will facilitate information sharing and overcome the lack of knowledge on this subject in our research community. For more information on this group, please see: <http://www.biochar-international.org/regional/Montenegro>.

The Florida Biochar Initiative (United States)

The mission of the Florida Biochar Initiative is to connect, educate, and enhance the activities of Florida residents interested in the use, study of, and possibilities for biochar in daily living. We are currently conducting meetings to educate, connect, and solicit members around Florida. For more information on this group, please see: <http://www.biochar-international.org/groups/Florida>.

South East Asian Biochar Interest Group: Biochar Stove Project in Indonesia

The Department of Chemical Engineering, Gadjah Mada University, Indonesia is planning to undertake a biochar stove project and is now seeking interest from potential research and project implementation partners. The project will focus on optimizing pyrolytic stoves for waste biomass in Indonesia, and will include the production and utilization of biochar.

Phase 1 began with a seminar on December 30, 2011 exploring TLUD primary and secondary air supply optimization. Integrating the manufacture of wood pellets is also a consideration for the performance of the stove and implementation into society as a sustainable activity. The Department of Chemical Engineering, Gadjah Mada University is open to collaborative research on biochar stove design and implementation of the stove field projects in Indonesian society. For more information, please see: <http://sea-biochar.blogspot.com/>.

Recently Published Biochar Research

IBI tracks all published research on biochar and includes it in our [online bibliography](#). The following articles were added in the last month. Please visit the website bibliography for more information on any of these articles. Due to copyright, we cannot provide full copies of articles unless we have permission from the publisher. If you have published work that is not included, [please email us](#).

- Ahmad, Mahtab, Lee Sang Soo, Yang Jae E., Ro Hee-Myong, Lee Young Han, and Ok Yong Sik (2012). Effects of soil dilution and amendments (mussel shell, cow bone, and biochar) on Pb availability and phytotoxicity in military shooting range soil. *Ecotoxicology and Environmental Safety*.
- Ahmed, Sohel, Hammond Jim, Ibarrola Rodrigo, Shackley Simon, and Haszeldine Stuart (2011). The potential role of biochar in combating climate change in Scotland: an analysis of feedstocks, life cycle assessment and spatial dimensions. *Journal of Environmental Planning and Management*.
- Chesapeake Bay Commission, Chesapeake Bay Foundation, Maryland Technology Development Corporation, and the Farm Pilot Project Coordination (2012). *Manure To Energy: Sustainable Solutions for the Chesapeake Bay Region*; at: <http://www.biochar-international.org/sites/default/files/manure-to-energy%20report.pdf>.
- Clay, S. A., and Malo D. D. (2011). The Influence of Biochar Production on Herbicide Sorption Characteristics. *Herbicides – Properties, Synthesis and Control of Weeds*, p.59 – 74.
- Elad, Yigal, Cytryn Eddie, Harel Yael Meller, LEW BENI, and Graber Ellen R (2011). The biochar effect: plant resistance to biotic stresses. *Phytopathologia Mediterranea*, Volume 50, Number 3.
- Felber, R., Huppi R., Leifeld J., and Neftel A. (2012). Nitrous oxide emission reduction in temperate biochar-amended soils. *Biogeosciences Discuss.*
- Gascó, G., Paz-Ferreiro J., and Méndez A. (2011). Thermal analysis of soil amended with sewage sludge and biochar from sewage sludge pyrolysis. *Journal of Thermal Analysis and Calorimetry*, 12/2011, p.1-7.
- Hanandeh, El A. (2011). Trade-offs in the production and end-use of biochar and bio-oil from the solid waste generated from the olive oil industry in Australia; 19th International Congress on Modelling and Simulation; 12/2011; Perth, Australia.
- Harsono, Soni Sisbudi, Grundmann Philipp, Hansen Anja, Azni Idris, Mam Salleh, Ghazi Tinia Idaty Mohd, and Lek Hang Lau (2011). Life Cycle Analysis of Biochar from Palm Oil empty Fruit Bunches. *Tropentag 2011*, October 5 - 7, "Development on the margin", Bonn, Germany.
- Ingold Mariko, Dietz Herbert, and Buerkert Andreas (2011). Agronomic Effects of Biochar and Polyphenols as Compost Additives to Irrigated *Raphanus sativus* in Oman, Jordan. *Tropentag 2011*, October 5 - 7, "Development on the margin" , Bonn, Germany.
- Ingold, Mariko, Schiborra Anne, Schlecht Eva, and Buerkert Andreas (2011). Influence of Biochar and Tannin Amendments to Goat Manure on Gaseous C and N Emissions. *Tropentag 2011*, October 5 - 7, "Development on the margin" , Bonn, Germany.
- Islami, Titiek, Guritno Bambang, Basuki Nur, and Suryanto Agus (2011). Maize Yield and Associated Soil Quality Changes in Cassava + Maize intercropping System After 3 Years of Biochar Application. *J. Agric. Food. Tech.* Volume 1, Number 7, p.112-115.

- Jindo, Keiji, Sánchez-Monedero Miguel A., Hernández Teresa, García Carlos, Furukawa Toru, Matsumoto Kazuhiro, and Sono Tomonori (2012). Biochar influences the microbial community structure during manure composting with agricultural wastes. *Science of The Total Environment*.
- Li, Yujiao, Wang Xiaofeng, Zhu Yanchao, Wang Lili, and Wang Zichen (2011). In situ preparation of biochar coated silica material from rice husk. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*.
- Paz-Ferreiro, J., Gascó G., Gutiérrez B., and Méndez A. (2011). Soil biochemical activities and the geometric mean of enzyme activities after application of sewage sludge and sewage sludge biochar to soil. *Biology and Fertility of Soils*.
- Rodríguez L, Salazar P., and R Preston T. (2011). Effect of a culture of “native” micro-organisms, biochar and biodigester effluent on the growth of maize in acid soils. *Livestock Research for Rural Development*. Volume 23.
- Song, Weiping, and Guo Mingxin (2011). Quality variations of poultry litter biochar generated at different pyrolysis temperatures. *Journal of Analytical and Applied Pyrolysis*.
- Souchie, Fabiane Furlaneto, Junior Ben Hur Marimon, Petter Fabiano André, Madari Beata Emöke, Marimon Beatriz Schwantes, and Le Eddie , *Ciência Florestal* (2011). CARVÃO PIROGÊNICO COMO CONDICIONANTE PARA SUBSTRATO DE MUDAS DE *Tachigali vulgaris* L.G. Silva & H.C. Lima. Volume 21, Number 4, p.811-821.
- Tsai, Wen-Tien, Kuo Kuan-Chi, Tsai Chia-Ying, Chou Tu-Cian, Chen Huei-Ru, and Chang Yuan-Ming (2011). Novel Preparation of Bamboo Biochar and Its Application on Cationic Dye Removal. *Journal of Biobased Materials and Bioenergy*. 12/2011, Volume 5, Number 4, p.556-561.
- Widowati, W., Utomo H., Soehono L. A., and Guritno B. (2011). Effect of biochar on the Release and Loss of Nitrogen from Urea Fertilization. *J. Agric. Food. Tech.*, Volume 1, Number 7, p.127-132.
- Zhang, Afeng, Bian Rongjun, Pan Genxing, Cui Liqiang, Hussain Qaiser, Li Lianqing, Zheng Jinwei, Zheng Jufeng, Zhang Xuhui, Han Xiaojun, et al. (2012). Effects of biochar amendment on soil quality, crop yield and greenhouse gas emission in a Chinese rice paddy: A field study of 2 consecutive rice growing cycles. *Field Crops Research*. 02/2012, Volume 127, p.153–160.