

# Agenda: Bioenergy's Role in Soil Carbon Storage Workshop

U.S. Department of Energy (DOE), Bioenergy Technologies Office (BETO)

March 28th–29th, 2022

(Agenda subject to change)

## Monday, March 28, 2022

Time (ET)	Agenda Item	Speaker
9:30 a.m.	<b><i>Workshop Opening</i></b>	
	Welcome	Nichole Fitzgerald, DOE, BETO Valerie Sarisky-Reed, DOE, BETO Mark Elless, DOE, BETO
	<b>Stakeholder Questions and Introduction to XLeap</b>	
10:00 a.m.	<b><i>Highlights from Previous Federal Programs on Soil Carbon and Current Agency Perspectives/Directions</i></b>	
10:04 a.m.	Engineering and Managing Terrestrial Ecosystems for Optimized Carbon Dioxide Removal and Negative Emissions Pathways	David Babson, DOE, Advanced Research Projects Agency-Energy
10:16 a.m.	Microbiome Research for Carbon Cycling and Sustainable Bioenergy Feedstocks in Biological and Environmental Research's (BER's) Genomic Science Program	Boris Wawrik, DOE, Office of Science, BER
10:28 a.m.	U.S. Department of Agriculture (USDA) Soil Carbon Research and Management	Sandeep Kumar, Peter Vadas, Anne Marsh, Michael Robotham, USDA
10:48 a.m.	The Recent Evolution of Sustainability Research at NSF in Relation to Soil Science and Engineering	Brandi Schottel, National Science Foundation (NSF)
11:00 a.m.	<b>Presentation Question and Answer Session, Mediated via XLeap</b>	
11:15 a.m.	<b><i>Virtual Lunch Break: Open Networking Session via XLeap</i></b>	
12:00 p.m.	<b><i>Keynote Talk:</i></b> Negative Emission Farming and Soil Carbon Sequestration	Rattan Lal, Director Rattan Lal Center for Carbon Management and Sequestration, Ohio State University
	<b>Presentation Question and Answer Session, Mediated via XLeap</b>	
1:00 p.m.	<b><i>Mechanisms of Soil Carbon Storage</i></b>	<b><i>Management Strategies to Optimize Soil Carbon Storage</i></b>
1:03 p.m.	Factors Affecting Organic Carbon Stability/Sequestration in Agricultural Soils	Keith Paustian, Colorado State University
1:17 p.m.	The Efficacy of Amelioration Practices for Crop Residue Removal in the Western Corn Belt	Virginia Jin, USDA-Agricultural Research Service (ARS)
1:31 p.m.	Biochar Impact on Soil Carbon Sequestration and Sustainability of Crop Residue Harvesting for Bioenergy	David Laird, Iowa State University
1:45 p.m.	<b>Stakeholder Input Breakout Sessions, Mediated via XLeap</b>	
2:50 p.m.	<b><i>Break</i></b>	

3:00 p.m.	<b>3x5 Stakeholder Lightning Talks</b> <ul style="list-style-type: none"> <li>Investigating Soil Carbon Vulnerability and Bioenergy Sustainability Under Changing Climate, <b>Umakant Mishra, Sandia National Laboratories</b></li> <li>Understanding Soil Systems: Measuring &amp; Driving Carbon Underground, <b>Ben Brown, ARVA Intelligence</b></li> <li>Washington Soil Health Initiative, <b>Chris Benedict, Washington State University</b></li> <li>Soil-Water-Plant Nexus: Controlling the Fate of Carbon Sequestration Through Microbiome Engineering, <b>Marie Kroeger, Los Alamos National Laboratory</b></li> <li>Agroecosystems as a Sustainable Post-Mining Land Use in Appalachia, USA, <b>Zac Freedman, University of Wisconsin-Madison</b></li> <li>Returning to Traditions: Native American Land Stewardship Techniques Provide Solutions to Growing Global Climate-Change Issues, <b>Mary Belle Zook, Indigenous Food and Agriculture Initiative</b></li> <li>Translating Soil Aggregate-Size Understanding of Microbial Carbon Accumulation to Ecosystem-Level Predictions, <b>Jorge Mazza Rodrigues, University of California – Davis</b></li> <li>Mobile Inelastic Neutron Scattering (MINS) Soil Scanning System "In Situ" Soil Analyses, <b>Allen Torbert, USDA ARS</b></li> <li>Should I Char It? A Brief Presentation on Biochar for C Management, <b>Thea Whitman, University of Wisconsin-Madison</b></li> <li>Building Soil Carbon Via Biomass Pyrolysis, <b>Robert Brown, Iowa State University</b></li> </ul>			
3:55 p.m.	<b>Adjourn</b>			
<b>Tuesday, March 29, 2022</b>				
Time (ET)	Agenda Item		Speaker	
9:30 a.m.	<b>Virtual Coffee Hour: Open Networking Session in XLeap</b>			
10:30 a.m.	<b>Welcome and Second Day Opening</b> Role of Soil Carbon Sequestration in Reducing the Carbon Intensity of Bioenergy Systems		Asmeret Asefaw Berhe, University of California Merced	
10:55 a.m.	<b>Agricultural Management Practices to Optimize Soil Carbon Storage</b>		<b>Forest Management Practices to Optimize Soil Carbon Storage</b>	
10:58 a.m.	Not All Soil Carbon Is Made Equal: How Biofuel Crops May Increase Particulate or Mineral Associated Organic Matter	Francesca Cotrufo, Colorado State University	Importance of Soil Carbon and Below-Ground Biomass on Greenhouse Gas Balance in Willow Biomass Crops	Tim Volk, State University of New York College of Environmental Science and Forestry
11:13 a.m.	Potential for Carbon Accrual in Bioenergy Feedstock Fields	Kirsten Hofmocker, Pacific Northwest National Laboratory	Sustainable Forest Management for Increasing Soil Carbon Sequestration with Biochar	Carlos Rodriguez Franco, U.S. Forest Service
11:28 a.m.	Soil Carbon Sequestration by Switchgrass: Potential and Management	Mark Liebig, USDA-ARS	A Circular Forest and Biomass Energy Decarbonization System for Bioeconomy	Jingxin Wang, West Virginia University
11:43 a.m.	<b>Stakeholder Input Breakout Sessions, Mediated via XLeap</b>			
1:00 p.m.	<b>Virtual Lunch Break: Open Networking Session in XLeap</b>			
2:00 p.m.	<b>Research and Development Needed to Support Policy for Soil Carbon Storage in Bioenergy</b>		<b>Tools for Decision Making in Bioenergy and Soil Carbon Storage</b>	
2:04 p.m.	Research Priorities in Soil Health and Carbon Storage for Production of Bioenergy Crops	Cristine Morgan, Soil Health Institute	SYMFONI - A "System-of-Systems" Solution to Quantify Carbon Outcome for Bioenergy Feedstock Production at the Field Level	Kaiyu Guan, University of Illinois at Urbana-Champaign

2:16 p.m.	Realizing Soil Carbon Sequestration: Research Gaps in the Context of Biofuels	Ronald Amundson, University of California Berkeley	Soil Organic Carbon Modeling to Support a Feedstock-Level Biofuel Life Cycle Analysis	Hoyoung Kwon, Argonne National Laboratory
2:28 p.m.	Biochar at the Interface of Energy Transition and Regenerative Agriculture	Ghasideh Pourhashem, Genomatica and Elsie Hung, Rice University	Assessing the Role of Soils in Carbon-Negative Bioenergy Landscapes	John Field, Oak Ridge National Laboratory
2:40 p.m.	<b>Presentation Question and Answer Session, Mediated via XLeap</b>			
3:10 p.m.	<b><i>Final Stakeholder Input Breakout Sessions, Mediated via XLeap</i></b>			
3:50 p.m.	<b><i>Adjourn</i></b>			