



Bioenergy 2015: Opportunities in a Changing Energy Landscape

Conference Agenda

Tuesday and Wednesday, June 23–24, 2015
Walter E. Washington Convention Center, Washington, D.C.

Breakout Session Tracks	Rooms
Track A: Feedstocks Track	Room 209
Track B: Conversion Track	Room 208
Track C: Integrated Biorefineries and Waste-to-Energy Track	Room 204
Track D: Finance, Policy, and Communications Track	Room 206

Tuesday, June 23, 2015		
7:00 a.m.–8:00 a.m.	Breakfast and Registration	Concourse
8:00 a.m.–8:15 a.m.	Welcome Keynote Franklin (Lynn) Orr, Under Secretary for Science and Energy, U.S. Department of Energy	Room 207
8:15 a.m.–8:30 a.m.	Congressional Keynote Amy Klobuchar, U.S. Senate (D-MN)	Room 207
8:30 a.m.–8:40 a.m.	Morning Keynote David Danielson, Assistant Secretary for Energy Efficiency and Renewable Energy, U.S. Department of Energy	Room 207
8:40 a.m.–9:00 a.m.	BETO Keynote Jonathan Male, Director, Bioenergy Technologies Office, U.S. Department of Energy	Room 207
9:00 a.m.–10:30 a.m.	Plenary I: Policy and Market Overview This session focuses on a mix of issues and policies currently impacting growth and deployment within the bioenergy market. Topics include state-level advantages and disadvantages of low-carbon fuel	Room 207

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	<p>standards, possibilities surrounding reusing carbon dioxide in algae growth, understanding oil price forecasts and potential impacts on the bioeconomy, and impacts of international biofuels policies.</p> <p>Moderator: Jim Lane, Editor and Publisher, <i>Biofuels Digest</i></p> <ul style="list-style-type: none"> ➤ Matt Carr, Executive Director, Algae Biomass Organization ➤ Bob Dinneen, President and Chief Executive Officer, Renewable Fuels Association ➤ Claire Curry, Associate, Advanced Transport, Bloomberg New Energy Finance ➤ Joel Velasco, Senior Vice President, Albright Stonebridge Group 	
10:30 a.m.–11:00 a.m.	Morning Break with Posters and Exhibitors	Concourse
11:00 a.m.–12:30 p.m.	<p>Plenary II: Biofuels in a Global Marketplace</p> <p>This session brings together industry representatives who are active in building biorefineries both inside and outside of the continental United States to discuss technical, financial, and regulatory challenges and opportunities emerging in the global marketplace.</p> <p>Moderator: James J. Spaeth, Program Manager–Demonstration and Market Transformation, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none"> ➤ Daniel Cummings, President, POET-DSM Advanced Biofuels, LLC ➤ Michael McAdams, President, Advanced Biofuels Association ➤ Prabhakar Nair, Executive Vice President of Business Development, LanzaTech ➤ Michele Rubino, Vice President of Business and Corporate Development, Beta Renewables ➤ Christopher Standlee, Executive Vice President of Institutional Relationships and Governmental Affairs, Abengoa Bioenergy 	Room 207

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	Corporation	
12:30 p.m.–1:30 p.m.	Lunch	Rooms 201 & 202
1:30 p.m.–1:45 p.m.	BioenergizeME Infographic Challenge Award Ceremony Recognition of the student team that won the spring 2015 BioenergizeME Infographic Challenge	Room 207
1:45 p.m.–2:15 p.m.	Afternoon Keynote Peter W. Davidson, Executive Director of the Loan Programs Office, U.S. Department of Energy	Room 207
2:15 p.m.–3:45 p.m.	<p>BREAKOUT SESSION 1</p> <p>1-A: Biomass Feedstocks for the Bioeconomy The panelists will highlight historical, current, and future national biomass assessment activities in the Bioenergy Technologies Office portfolio and review the market demand for biofuels and bioproducts to assure a reliable and sustainable domestic supply of cost-effective biomass for a growing bioeconomy.</p> <p>Moderator: Mark Elless, Technology Manager—Terrestrial Feedstocks, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none"> ➤ Bryce Stokes, Senior Advisor, CNJV ➤ Laurence Eaton, Research Economist, Oak Ridge National Laboratory/U.S. Department of Energy’s Bioenergy Technologies Office ➤ Robert C. Abt, Professor of Natural Resource Economics and Management, North Carolina State University ➤ Tim Portz, Executive Editor, <i>Biomass Magazine</i> <p>1-B: Innovations in Basic Science across Agencies and Offices to Enable Bioenergy This session will bring together leading researchers with basic science projects from the U.S. Department of Energy’s Office of Science and the U.S. Department of Defense’s Defense Advanced</p>	<p style="text-align: center;">Room 209</p> <p style="text-align: center;">Room 208</p>

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Research Projects Agency to explore some potentially disruptive technologies and present their long-term visions for bioenergy. These projects will highlight how coordination between basic and applied R&D offices can help to fill the research pipeline and enable game-changing technologies to succeed.

Co-Moderator: Jay Fitzgerald, ORISE Fellow—Biochemical Conversion, Bioenergy Technologies Office, U.S. Department of Energy

Co-Moderator: G. Jeremy Leong, ORISE Fellow—Conversion Technologies, Bioenergy Technologies Office, U.S. Department of Energy

- Sunil Chandran, Director, Biology, Amyris, Inc.
- Paul J. Dauenhauer, Professor and Co-Director, Catalysis Center for Energy Innovation, University of Minnesota
- John Ralph, Professor, Department of Biochemistry, Wisconsin Energy Institute

1-C: Bringing Biorefineries into the Mainstream

This session focuses on the real world experiences of companies advancing through the stages of scale-up from pilot through commercialization, with a special focus on what it takes to build a successful commercial bioenergy business.

- Doug Berven, Vice President of Corporate Affairs, POET
- Harrison Pettit, Vice President of Business Development, PacificAg
- Theodora Retsina, Chief Executive Officer, American Process Inc.
- Rick Weyen, Vice President, Strategy and Business Development, Tesoro Companies, Inc.

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	<p>1-D: The Pitch</p> <p>This session focuses on innovative bioenergy and bioproduct startups that have the opportunity to pitch their creative business ideas to a panel of experts and conference attendees. The expert panel will provide valuable feedback to the presenters.</p> <p>Moderator: Jim Lane, Editor and Publisher, <i>Biofuels Digest</i></p> <p><u>Panel of Experts:</u></p> <ul style="list-style-type: none"> ➤ Brian Baynes, Partner, Flagship Ventures ➤ Bill Crump, Senior Project Manager, Leidos Engineering ➤ Geoffrey Duyk M.D., Ph.D., Managing Director and Partner, TPG Alternative and Renewable Technologies/TPG Biotechnology ➤ Mark J. Riedy, Partner, Kilpatrick Townsend & Stockton LLP <p><u>Startups:</u></p> <ul style="list-style-type: none"> ➤ Molly Morse, Chief Executive Officer, Mango Materials ➤ Noah Helman, Co-Founder and Chief Science Officer, Industrial Microbes ➤ Len Rand, Chief Executive Officer, Chairman, xF Technologies ➤ Jason Force, Chief Executive Officer, Iron Goat Technology, Inc. 	Room 206
3:45 p.m.–4:15 p.m.	Afternoon Break with Posters and Exhibitors	Concourse
4:15 p.m.–5:30 p.m.	<p>Plenary III: Early Market Adopters</p> <p>This session focuses on the rising demand for biofuels and bioproducts with an emphasis on early adoption markets that are driving new innovation. The panel will provide perspectives from the commercial aviation, maritime, and military sectors’ need for biofuels to help meet sustainability and security demands, and discuss the opportunities for biomass to make an impact on the commercial products industry.</p> <p>Moderator: Ashley Rose, Senior Research</p>	Room 207

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	<p>Analyst, BCS, Incorporated</p> <ul style="list-style-type: none">➤ Dr. Randy D. Cortright, Ph.D., Chief Technology Officer/Founder, Virent, Inc.➤ Taite R. McDonald, Senior Policy Advisor, Holland & Knight LLP➤ Nancy N. Young, Vice President, Environmental Affairs, Airlines for America➤ Tom Thompson, Maritime Environmental and Energy and Technical Advisor, U.S. Maritime Administration➤ Chris Tindal, Director for Operational Energy, Office of the Deputy Assistant Secretary of the Navy for Energy	
5:30 p.m.–7:30 p.m.	Evening Poster Reception	Concourse

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Wednesday, June 24, 2015		
7:00 a.m.–8:00 a.m.	Breakfast and Registration	Concourse
8:00 a.m.–8:15 a.m.	Day 2 Introductory Keynote Reuben Sarkar, Deputy Assistant Secretary for Transportation, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy	Room 207
8:15 a.m.–8:45 a.m.	U.S. Environmental Protection Agency Keynote Christopher Grundler, Director, Office of Air Quality and Transportation, U.S. Environmental Protection Agency	Room 207
8:45 a.m.–9:00 a.m.	White House Keynote Robert M. Simon, Principal Advisor to the Director for Energy, Transportation, and Resources, Office of Science and Technology Policy, Executive Office of the President	Room 207
9:00 a.m.–9:30 a.m.	U.S. Department of Agriculture Keynote Mark Brodziski, Director of the Rural Business-Cooperative Services Energy Division, U.S. Department of Agriculture	Room 207
9:30 a.m.–10:30 a.m.	Plenary IV: Fuels of the Future: Accelerating the Co-Optimization of Fuels and Engines The co-optimization of engines and renewable fuels has the potential to increase fuel efficiency, improve vehicle performance, and reduce greenhouse gas emissions. This session will explore opportunities and challenges with bringing co-optimized vehicles and fuels to market and highlight the emerging Office of Energy Efficiency and Renewable Energy initiative and related research in this area, both at the national laboratories and in the private sector. Moderator: Reuben Sarkar, Deputy Assistant Secretary for Transportation, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy <ul style="list-style-type: none"> ➤ James E. Anderson, Technical Expert, Ford Motor Company ➤ Doug Berven, Vice President of Corporate Affairs, POET ➤ John Eichberger, Vice President of Government Relations, National Association of Convenience Stores/Executive Director, The Fuels Institute ➤ John Farrell, Laboratory Program Manager—Vehicle Technologies, National Renewable Energy Laboratory 	Room 207

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	<ul style="list-style-type: none"> ➤ Blake Simmons, Biofuels Program Lead, Sandia National Laboratories 	
10:30 a.m.–10:45 a.m.	Morning Break with Posters and Exhibitors	Concourse
10:45 a.m.–12:15 p.m.	<p>BREAKOUT SESSION 2</p> <p>2-A: The Future of Algae-Based Biofuels</p> <p>This session focuses on the opportunities for algae-based biofuels and bioproducts in a diversified energy future and the next steps towards seizing those opportunities. Panelists will discuss the challenges of scaling-up production operations, the market role of bioproducts, and the future of algal technologies.</p> <p>Moderator: Christy Sterner, Technology Manager—Algal Feedstocks, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none"> ➤ Toby Ahrens, Chief Technology Officer, BioProcess Algae ➤ Ronald R. Chance, Executive Vice President, Engineering, Algenol ➤ Jeffrey S. Kanel, Ph.D., President and Chief Executive Officer, Renewable Algal Energy, LLC ➤ Tryg Lundquist, Associate Professor, California Polytechnic State University, San Luis Obispo ➤ Dr. John McGowen, Director of Operations and Program Manager, Arizona Center for Algae Technology and Innovation: Arizona State University <p>2-B: New/Emerging Pathways</p> <p>This session will highlight novel technologies addressing the capabilities of biologically, chemically, and thermochemically derived biofuels and bioproducts from lignocellulosic, algal, and associated feedstocks. Panelists will focus on how to strategically leverage innovative and cost-effective technological solutions to meet the challenges faced by this emerging landscape.</p> <p>Co-Moderator: G. Jeremy Leong, ORISE Fellow—Conversion Technologies, Bioenergy Technologies Office, U.S. Department of Energy</p> <p>Co-Moderator: Siva Sivasubramanian, ORISE Fellow—Conversion Technologies/Demonstration and Market</p>	<p>Room 209</p> <p>Room 208</p>

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	<p>Transformation, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none">➤ Abhijeet P. Borole, Research Scientist, Oak Ridge National Laboratory➤ Charles E. Wyman, President and Chief Executive Officer, Vertimass LLC➤ Dr. Lori Giver, Vice President of Biological Engineering, Calysta Energy, Inc.➤ Fred Moesler, Chief Technology Officer, Renmatix➤ Dr. Robert Graham, Chief Executive Officer and Chairman, Ensyn Corporation	
	<p>2-C: Biogas and Beyond: Challenges and Opportunities for Advanced Biofuels from Wet-Waste Feedstocks</p> <p>This breakout session will feature presentations that illustrate the complex nature of the challenges and opportunities surrounding wet-waste streams as a feedstock for the production of advanced biofuels. Presentation topics in this session will focus on resource assessment, bioproduct precursors from anaerobic digestion, microbial electrochemical cells, as well as algae and wastewater.</p> <p>Moderator: Daniel B. Fishman, Technology Manager—Algal Feedstocks, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none">➤ Matthew Atwood, President and Chief Executive Officer, Algae Systems, LLC➤ Meltem Urgun-Demirtas, Principal Environmental Engineer, Argonne National Laboratory➤ Corinne Drennan, Energy & Environment Directorate, Pacific Northwest National Laboratory➤ Bruce Logan, Kappe Professor of Environmental Engineering and Evan Pugh Professor, Pennsylvania State University	Room 204
	<p>2-D: Reaching Your Stakeholders: Effectively Engaging and Educating Key Audiences</p> <p>This session focuses on demonstrated communication strategies and tactics to engage and educate key audiences—such as the general public, communities, policy makers, and</p>	Room 206

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	<p>investors—on bioenergy. Panelists, through a facilitated discussion, will provide attendees with unique insights, success stories, and best practices and lessons learned that improved public perception of bioenergy at local, regional, and national levels.</p> <p>Moderator: Sheila Dillard, Communications Lead, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none"> ➤ Melissa Savage, Senior Program Director, National Association of State Energy Officials ➤ Joanna Schroeder, Editor, DomesticFuel.com ➤ Emily York, Vice President of Communications, Abengoa ➤ Wendy Rosen, Leader, Global Public Affairs, DuPont Industrial Biosciences, DuPont ➤ Aaron Wells, Communications Consultant, Fuels America 	
12:15 p.m.–1:15 p.m.	Lunch	Rooms 201 & 202
1:15 p.m.–1:45 p.m.	Bioenergy Technologies Office Multimedia Presentation	Room 207
1:45 p.m.–3:15 p.m.	<p>BREAKOUT SESSION 3</p> <p>3-A: Growing a Water-Smart Bioeconomy</p> <p>This session focuses on opportunities to expand sustainable bioenergy production in light of water limitations and climate variability. Speakers will discuss the links between water resources, feedstock production, and biorefinery operations. The session will identify water-related challenges and explore smart practices, lessons learned, and opportunities for the bioenergy community to overcome these challenges.</p> <p>Moderator: Kristen Johnson, Technology Manager—Sustainability, Bioenergy Technologies Office, U.S. Department of Energy</p> <ul style="list-style-type: none"> ➤ Tim Cohn, Hydrologist, Office of Surface Water, U.S. Geological Survey ➤ Carolyn Olson, Ph.D., Senior Scientist, Climate Change Program Office, Office of the Chief Economist, U.S. Department of Agriculture ➤ Mitchell Schultz, R&D Manager of Separations Science, Archer Daniels Midland Company ➤ May Wu, Principal Environmental System Analyst in the 	Room 209

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	<p>Energy Systems Division, Argonne National Laboratory</p> <p>3-B: The Changing Landscapes for Biobased Chemicals: A Decade After the Top Value Added Chemicals from Biomass</p> <p>It has been more than a decade since the U.S. Department of Energy published its first “Top Value Added Chemicals from Biomass” report. Panelists will discuss the vision that shaped these reports, recent biobased chemicals manufacturing successes, and the outlook for biomass-derived products.</p> <p>Co-Moderator: Nichole Fitzgerald, ORISE Fellow— Thermochemical Conversion, Bioenergy Technologies Office, U.S. Department of Energy</p> <p>Co-Moderator: Corinne Young, Chief Executive Officer, Corinne Young, LLC</p> <ul style="list-style-type: none">➤ Lisa Dyson, Chief Executive Officer, Kiverdi➤ Jim Millis, Chief Technology Officer, BioAmber➤ Andy Shafer, Executive Vice President, Sales and Market Development, Elevance Renewable Sciences➤ Dr. Todd A. Werpy, Senior Vice President and Chief Technology Officer, Archer Daniels Midland Company➤ Ken Williams, Program Leader/Principal Chemical Engineer, Nature Works, LLC	Room 208
	<p>3-C: Renewable Gaseous Fuels</p> <p>This session focuses on renewable gaseous fuels (most commonly biogas), a product of anaerobic digestion of wet organic waste streams, including but not limited to landfills, manure slurries, and municipal and industrial wastewaters. After cleanup and upgrading, biogas can be used as a transportation fuel in the form of compressed natural gas, or injected into pipelines. It is also possible to use biogas as a feedstock to produce biofuel and bioproduct precursors.</p> <p>Moderator: Patrick Serfass, Executive Director, American Biogas Council</p> <ul style="list-style-type: none">➤ Wilfred Chen, Professor, University of Delaware➤ Jeffrey Reed, Director of Business Strategy and Development, Southern California Gas Company/San	Room 204

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	<p style="text-align: center;">Diego Gas & Electric</p> <ul style="list-style-type: none"> ➤ David Ross, Managing Director, MultiGen International, LLC ➤ Sarah Studer, ORISE Fellow—Fuel Cell Technologies Office, U.S. Department of Energy <p>3-D: How States are Promoting Advanced Biofuels This session focuses on the initiatives, incentives, and regulations that state governments could employ to accelerate growth of the advanced biofuels economy. From the role of regional consortia to the most effective and enticing forms of financing, the panelists' discussion will center around state policy in an era of evolving federal support.</p> <p>Moderator: Jessie Stolark, Policy Associate, Environmental and Energy Study Institute</p> <ul style="list-style-type: none"> ➤ Bruce E. Dale, University Distinguished Professor, Michigan State University ➤ Doug Hoelscher, Director, Office of State-Federal Relations, State of Iowa ➤ Brendan Jordan, Vice President, Great Plains Institute ➤ Jacques Beaudry-Losique, Senior Vice President, Corporate and Business Development, Algenol 	Room 206
3:15 p.m.–3:30 p.m.	Afternoon Break with Posters and Exhibitors	Concourse
3:30 p.m.–4:30 p.m.	<p>Plenary V: Biofuels and Sustainability: Acknowledging Challenges and Confronting Misconceptions</p> <p>Panelists will discuss high-profile topics related to the environmental and socio-economic impacts of biofuels, highlighting positive examples as well as issues that warrant additional attention. Panelists will also examine underlying assumptions that contribute to misconceptions about biofuels and discuss opportunities for achieving beneficial outcomes and mitigating concerns.</p> <p>Moderator: Suzanne Hunt, President, Hunt Green LLC</p> <ul style="list-style-type: none"> ➤ David Babson, Senior Fuels Engineer, Union of Concerned Scientists ➤ Barbara Bramble, Senior Director for International Wildlife Conservation at National Wildlife Federation and 	Room 207

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	<p>Chair of Board of Directors for the Roundtable on Sustainable Biomaterials</p> <ul style="list-style-type: none">➤ Jennifer B. Dunn, Energy Systems and Sustainability Analyst, Argonne National Laboratory➤ Lee R. Lynd, Professor of Engineering, Dartmouth College	
4:30 p.m.–5:00 p.m.	<p>Afternoon Keynote</p> <p>Gregory L. Rorrer, Program Director, Energy for Sustainability Program, Division of Chemical, Bioengineering, Environmental, and Transport Systems, National Science Foundation</p>	Room 207
5:00 p.m.–5:15 p.m.	<p>Conference Close and Thank You</p> <p>Jonathan Male, Director, Bioenergy Technologies Office, U.S. Department of Energy</p>	Room 207