

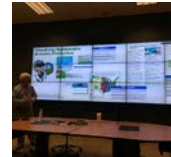
Bioenergy, Sustainability, and Land-Use Change Report Oak Ridge National Laboratory (ORNL) November 2016

Publications

- Hanssen SV, Duden AS, Junginger HM, Dale VH, van der Hilst F. (In press) Wood pellets, what else? Greenhouse gas parity times of European electricity from wood pellets that are produced in the south-eastern United States— using different softwood feedstocks. *GCB Bioenergy*.
- Kanter DR, Musumba M, Wood SLR, Palm C, Antle J, Balvanera P, Dale VH, Havlik P, Kline KL, Scholes RJ, Thornton P, Tiftonell P, Andelman S. (2016) Evaluating agricultural trade-offs in the age of sustainable development *Agricultural Systems*.
- Forbes, Jager, et al. (In press) A framework for predicting impacts on ecosystem services from (sub) organismal responses to chemicals. *Environmental Toxicology and Chemistry*.

CBES Forum

Nov. 9: CBES Forum entitled “Seeing the Path to Sustainable Bioenergy: Interactive Analytical Data Visualization in Research and Publication” by Michael Hilliard of ORNL.



Presentations

Nov. 1: Shahab Sokhansanj gave a presentation on “Outlook for R&D in Biomass Engineer.”

Nov. 2-6: Maggie Davis attended the 2016 Society of American Foresters National Convention in Madison, Wisconsin. She presented on the Billion Ton 2016 report and showcased potential biomass production strategies, including county-level results of short rotation woody crop production simulations at the farmgate or roadside.



Nov. 6-8: Virginia Dale and Keith Kline attended the 6th annual conference of the US Industrial Pellet Association (US IPA: <http://www.theusipa.org/conference/agenda>) in Miami Beach, Florida. Virginia Dale gave a presentation on “Prospects of Renewable Energy Using Wood Pellets from Southeastern United States.” The photo essay by Virginia Dale, Esther Parish, and Keith Kline on “Lessons from the Forest” was included in *World Biomass* that was distributed to all meeting participants: <http://www.dcm-productions.co.uk/flippages/flipbook/index.html?page=1>.



Nov. 16: Virginia Dale gave a presentation to the Institute for a Secure and Sustainable Environment (ISSE) at The University of Tennessee on her projected funded by ISSE on “Evaluating sustainability and resilience in agricultural systems using an integrated, web-based App for on-farm self-assessment and resource discovery.”

Nov. 18: Virginia Dale gave a presentation to the Oak Ridge Institute for Continued Learning (ORICL) Philosophical Society on “Sustainable Practices” at Roane State Community College.

Other ORNL Activities

Nov. 2-4: Terry Mathews and Virginia Dale participated in the Alan Alda Center for Communicative Science Workshop at ORNL led by staff from The Alda-Kavli Learning Center: <http://www.aldakavlilearningcenter.org/>.



Nov. 4: ORNL Strategic Petroleum Reserve (SPR) Team (**David Bowman, Gbadebo Oladosu, Rocío Uria, Paul Leiby**) delivered a presentation packet to DOE/SPR on “LTSR Project: BenEStock Description, Assumptions and Modelling Results,” and assisted the sponsor in developing a presentation that was sponsor delivered in China on Nov 4. Outcome of this discussion is proposed FY17 ORNL/DOE analytical collaboration with Chinese emergency stockpiling experts.

Nov.: Paul Leiby interacted frequently with EPA/OTAQ (Office of Transportation and Air Quality), providing a series of energy security estimates, related text and edits for the Technical Support Document being developed by EPA for the CAFE/GHG Rule Mid Term Assessment.

Nov. 7-8: Keith Kline and Virginia Dale attended IEA Bioenergy Task 40 (Biomass Markets and Trade) presentations and met with Task 40 members including Task Lead Martin Junginger and colleagues from INL and Imperial College, to review plans for collaboration related to standards, trade and the IEA Bioenergy Inter-task Sustainability Project.

Nov. 9: Paul Leiby was offered a 3 year (re-)appointment by the Transportation Research Board, National Academies of Science Engineering and Medicine, to serve as Chairman of the Committee on Transportation Energy (for term 4/2017-4/2020).

Nov. 14: The Strategic Petroleum (SPR) Team (**Paul Leiby, Debo Oladosu, Rocío Uria, Dave Bowman**) visited DOE HQ for working meetings with the sponsor K. Vincent and others at FE/SPR to plan research. Anticipated meeting with others including Fossil DAS for SPR.

Nov. 15-16: ORNL hosted the Biomass Scenario Model (BSM) development team from NREL to discuss the use of feedstock data from the Billion Ton Studies (BT2 & BT16) and plans to enhance synchronization of the models with respect to their assumptions.

Nov. 21: Virginia Dale and Keith Kline participated in a conference call of the IEA Bioenergy Intertask on Sustainability.

Upcoming CBES Forums

Dec. 16: CBES Forum entitled “Lessons from the Alan Alda Center for Communicative Science Workshop” by Terry Mathews and Virginia Dale of ORNL.

Dec. 20: CBES Forum entitled “Bioenergy Solutions to Gulf Hypoxia” by Yetta Jager, Matt Langholtz, and Virginia Dale of ORNL.

Upcoming ORNL Visits/Events

Dec. 7: Keith Kline has been invited to give a talk at the ASTM D02 Meeting in Lake Buena Vista, Florida

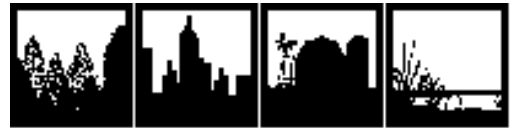
Dec. 12-16: Several ORNL scientists will participate in American Geophysical Union (AGU) Fall Meeting in San Francisco: <https://fallmeeting.agu.org/2016/>



- Virginia Dale, Keith Kline, and Latha Baskaran will contribute to the session titled "Biofuel-induced land use change impacts on hydrology, water quality, and carbon and evapotranspiration dynamics."
 - Virginia will present on "Effects on Environmental and Socioeconomic Sustainability of Producing Ethanol from Perennial Grasses,"
 - Keith will present on "Land-Use Change and the Billion Ton 2016 Resource Assessment: Understanding the Effects of Land Management on Environmental Indicators."
 - Latha will present on "Exploring the Potential for Sustainable Future Bioenergy Production in the Arkansas-White-Red River Basin."
- Nagendra Singh will speak on "Use of Dynamic Time Warping and Network Based Techniques for Mapping Trends and Patterns in Vegetation Using MODIS Data."

Dec. 13-14: Visit by Bioenergy Technologies Office (BETO) Strategic Communications team (Sheila Dillard, Rhonda Jackson, Shannon Zaret, and Alexis Wolfe) will focus on projects, "Educator Education" and "Addressing Stakeholder Issues to Inform Decision Making," and is expected to include a tour of ORNL unique capabilities (e.g., the Manufacturing Demonstration Facility: <http://web.ornl.gov/sci/manufacturing/mdf/>).

Apr. 2017: Esther Parish has been invited to present her research on wood pellet sustainability at the April 9-13th US-IALE (US Regional Association of the International Association for Landscape Ecology) meeting in Baltimore, Maryland:



<http://usiale.org/baltimore2017/> . Her presentation will be part of a symposium entitled "Telecoupling people and landscapes among distant places around the world."

TBD: Following up on the presentation by US Congressman Bruce Westerman (forester and engineer from Arkansas) on wood-based bioenergy at the US Industrial Pellet Association meeting, Virginia spoke with him and invited him to visit ORNL. That visit will likely be in early 2017.

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