

**Bioenergy Sustainability and Land-Use Change Report
Oak Ridge National Laboratory (ORNL) July 2011**

ORNL Publications:

Kline KL, GA Oladosu, VH Dale, A McBride. In press. "Scientific Analysis Is Essential to Assess Biofuel Policy Effects" as a response to the paper by Kim and Dale (2011) titled: Indirect land use change for biofuels: Testing predictions and improving analytical methodologies. Biomass and Bioenergy.

ORNL Presentations:

July 10-15 – Natalie Griffiths presented research on "Biogeochemistry of forested watersheds in the Upper Coastal Plain of the Southeastern U.S. prior to conversion to short-rotation pine for bioenergy" at the Gordon Research conference on Catchment Sciences at Bates College, Lewiston, ME.

ORNL Provided Comments:

July 25 - ORNL submitted comments to the Office of the Biomass Program (OBP) on the State-DOE Global Bioenergy Partnership (GBEP) Proposal for Sustainable Bioenergy Capacity Building in less-developed nations.

ORNL CBES Forum:

The monthly CBES forum was held on July 28th, 2011. Esther Parish presented "One size won't fit all: The role of scale in comparing the environmental impacts of ethanol and gasoline production," an overview of some ongoing research that resulted from the ORNL/US Environmental Protection Agency (EPA) workshop on "Sustainability of Bioenergy Systems: Cradle to Grave" held on September 10-11, 2009. Results of this investigation are planned for inclusion in an upcoming special issue of "Environmental Management." Esther's co-authors include Jeff Bielicki of the University of Minnesota's Hubert H. Humphrey School of Public Affairs, Tim Johnson of EPA's Office of Research and Development, and ORNL's Virginia Dale, Rebecca Efrogmson, Mike Hilliard, Yetta Jager, Keith Kline and Allen McBride.

Other ORNL Activities:

July 1 – Four abstracts for presentations submitted by ORNL were accepted by the planning committee for the International Energy Agency (IEA) Joint Bioenergy Tasks 38/40/43 Workshop on "Quantifying and managing land use impacts of bioenergy."

July 5, 12, and 21 – ORNL contributed to International Standards Organization (ISO) Project Committee 248 (Sustainable Criteria for Bioenergy) Work Group 4 webinars, developing a sub-report outline and content to help determine how to address food-fuel issues and direct versus indirect effects. Maggie Stevens took over as WG4 Secretary.

July 7 – Keith Kline, Debo Oladosu, and Maggie Stevens participated in a conference call with Professor Goldemberg of the University of Sao Paulo's Instituto de Eletrotécnica e Energia to discuss potential collaborators on joint-research

July 12 – Keith Kline, Maggie Stevens, Esther Parrish, Lawrence Eaten, and Charles Garten participated in a conference call with representatives from the Brazilian Bioethanol Science and Technology Laboratory (CTBE) to discuss potential collaborations on joint-research and to

identify a CTBE representative to serve as the point of contact for the composition and submission of a joint-proposal.

July 13 – Virginia Dale met with Battelle, Columbus, OH (Jeff Wadsworth) and ACHIEVE (a non-profit organization created by the National Governors Association) to discuss developing a set of common core K-12 graduation standards that states would adopt.

July 18-20 – Esther Parish attended the American Meteorological Society's (AMS's) 19th Conference on Applied Climatology/Practical Solutions for a Warming World AMS Conference on Climate Adaptation joint conference in Asheville, NC. She presented a poster on “Dynamically downscaled simulations of the north Georgia flood of 2009 under different land-use scenarios” along with Willis Shem (first author) and Ben Preston of ORNL.

July 26-27 – Several ORNL staff participated in “Biomass 2011” in Washington, DC, by giving presentation or posters.

July 29 – Keith Kline and Virginia Dale participated in a Council on Sustainable Biomass Production (CSBP) Forestry Task Force conference call during which life cycle assessment approaches were discussed.

July 29. Keith Kline and Gangsheng Wang contributed comments in the 6th Webinar of International Organization for Standardization (ISO) PC248 (Sustainable Criteria for Bioenergy) Work Group 2 on Greenhouse Gas Emissions and provided input for the overall draft Standard to WG1 (definitions and cross-cutting issues).

Upcoming ORNL Visits/Events:

August 2-3 – Virginia Dale is invited to attend Environmental Protection Agency's National Center for Environmental Assessment (NCEA) workshop on Scenario Workshop for Development of Future Scenarios for Biofuels to 2050 in Arlington, VA.

Aug 3-4 – Audrey Mayer of Michigan Tech will visit ORNL and UT to discuss her work related to regional-scale impacts of bioenergy and carbon sequestration policies for nonindustrial private forests in Michigan and Tennessee. On Aug 3rd, Dr. Mayer give a talk entitled, "Using agent-based models to understand the impact of Non Industrial Private Forest (NIPF) owner preferences and bioenergy policies on forested landscapes" at a special CBES forum.

Aug 9-11 – Mark Downing will attend the 6th Annual Southeast Bioenergy Conference at Tifton, Georgia (<http://www.sebioenergy.org/>). Mark will also attend a side meeting on August 11 regarding the organization of the USDA SE Regional Biomass Research Center.

August 14-18 – Keith Kline is invited to attend and present "Indicators to support environmental sustainability of agricultural production and bioenergy crops" at the Brazilian Bio-Energy Science and Technology (BBEST) Conference in São Paulo, Brazil. Parallel meetings of the Executive Committee of the Global Sustainable Bioenergy Project will also be held.

August 21-25 – Virginia Dale is invited to give a presentation on “Integrating climate change with land-use change” at the 4th World Conference on Ecological Restoration of the Society for Ecological Restoration (SER) in Mérida, Mexico.

September 7-9 – Kline is invited to the National Wildlife Federation/Roundtable on Sustainable Biofuels (RSB) workshop on the Role of Commodity Roundtables & Avoided Forest Conversion in Subnational Reducing Emissions from Deforestation and Forest Degradation (REDD) – Agriculture, Food Security & Greenhouse Gas (GHG) Accounting; San Diego, California.

September 12-15 – Keith Kline (as technical expert) and Maggie Stevens (as Official WG4 Secretary) will travel to Argentina for the International Organization for Standardization (ISO) WG4 Meeting on Indirect Effects to be held in Buenos Aires September 13-15 and will present to the Argentinian National Standards Organization (IRAM).

September 19-21 – Virginia Dale, Keith Kline, and Maggie Stevens will present at the International Energy Agency (IEA) Joint Task 38/40/43 Workshop on "Quantifying and managing land use impacts of bioenergy" in Campinas, Brazil.

October 18-19 – Keith Kline is invited to speak at The Coordinating Research Council (CRC) Lifecycle Analysis Workshop in the "Land Use Change and GHG Emissions" session at Argonne National Laboratory.

November 10-11 – Virginia Dale will visit Michigan Technological University as a Distinguished Ecologist lecturer in the School of Forest Resources and Environmental Science.

November 13-16 – Mike Hilliard will give a presentation at the Annual Meeting of the Institute for Management Science and Operations Research (INFORMS) in Charlotte, NC, on the Biomass Location for Optimal Sustainability Model (BLOSM) --Balancing Profit and Water Quality in a Watershed. His presentation will use data from the watershed surrounding a cellulosic ethanol refinery in Tennessee; an optimization model paired with results from a water quality model demonstrates that planting switchgrass in the right locations can improve nitrogen, phosphorus and sediment levels with a moderate impact on revenue. A web-based interface communicates the results. <http://meetings2.informs.org/charlotte2011/index.html>

February 22-24, 2012 – Virginia Dale is invited to speak on “Environmental and socioeconomic indicators for bioenergy sustainability as applied to Eucalyptus” at symposium on “Assessment and Management of Environmental Issues Related to Eucalyptus Culture in the Southern United States”. The symposium is being organized by the USDA Forest Service and the National Council for Air and Stream Improvement, Inc. (NCASI) in Charleston, SC. Matt Langholtz is assisting in the preparation of this paper.