Keith L. Kline

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Education

Framingham State College, Massachusetts; M.Ed. International Education Program, 2000
University of Michigan, Ann Arbor, Michigan; B.S. School of Natural Resources, 1979

Professional Experience

2010- present: Senior Research Staff; Oak Ridge National Laboratory (ORNL)
2006-2009: Research Staff; ORNL, Environmental Sciences Division
2004-2006: Regional Natural Resources Advisor and environmental program team leader; U.S. Agency for International Development (USAID), Regional Center for Southern Africa, Gaborone, Botswana
2000-2004: Research Staff, Energy Efficiency and Renewable Energy Alternative Financing; ORNL Federal Energy Management Program Team, Engineering Science and Technology Division
1990-2000: Team Leader; USAID Environmental Strategic Objective, Guatemala
1984-1990: Independent Contractor, USAID Energy and Environmental Programs in Latin America: Maya Biosphere Project (Guatemala), Regional Environment and Natural Resource Management Project (Central America), Central American Research Institute for Industry and Technology (renewables and energy efficiency in industry), Disaster Rehabilitation and Reconstruction (Peru)
1980-1984: Appropriate Technology Outreach and Rural Development; US Peace Corps, Ecuador: design, build, evaluate and train others in biogas, wind, solar, and fuelwood conserving technologies
1978-1979: Teaching Assistant, University of Michigan Institute of Public Policy Studies, Ann Arbor, Michigan
1978 (summer): Registered lobbyist, Sierra Club, Washington, D.C.
1972-1980 (seasonal): Maple Shade Farms, St. Joseph County, Michigan

Synergistic Activities

- Technical advisor, International Organization for Standardization (ISO) Project Committee 248, Sustainability Criteria for Bioenergy and Member of the American Society for Testing and Materials (ASTM) International/ANSI (2010-present).
- Appointment as Visiting Research Scholar, University of Campinas, Sao Paulo Research Foundation (FAPESP, 2014-2015).
- Reviewer/referee for scientific journals including Proceedings of the National Academy of Sciences (PNAS) of the United States, Frontiers in Ecology and the Environment (Ecology Society of America), Environmental Modeling and Software, Environmental Impact Assessment Review, Biofuels/Future Science, Environmental Science and Technology.
- Contributing expert on GHG emissions accounting, analysis of resource potential and indirect effects for the International Energy Agency Bioenergy Task 38.
- Collaborator on the Latin American, Caribbean and Africa project (LACAf) to identify opportunities to advance mutually beneficial biofuel and food production.

- Served by invitation on the Expert Work Group on Land-Use Change for the California Air Resource Board (CARB) Low-Carbon Fuel Standard; Sacramento, California (2010-11).
- Serve on the Organizing and Science Committees for international forum on biofuels and food security sponsored by International Food Policy Research Institute, US Department of Energy, Inter-American Development Bank, and others (2014).

Publications (20 recent examples)

1. Kang, S., Singh N, Kline KL, Nichols JA, et al. 2014. Global simulation of bioenergy crop productivity: analytical framework and case study for a perennial bioenergy crop - switchgrass. GCB Bioenergy. 6:14–25. doi: 10.1111/gcbb.12047
2. Kline KL, Singh N, Dale VH. 2013. Cultivated hay and fallow/idle cropland confound analysis of grassland conversion in the Western Corn Belt. Letter published in PNAS Early Edition, June 10. www.pnas.org/cgi/doi/10.1073/pnas.1306646110
3. Dale VH and Kline KL. 2013. Issues in using landscape indicators to assess land changes. Ecological Indicators. 28:91-99. http://dx.doi.org/10.1016/j.ecolind.2012.10.007
4. Parish ES, Kline KL, Dale VH, Efroymson RA, et al. 2013. Comparing Scales of Environmental Effects from Gasoline and Ethanol Production. Environmental Management: 51(2):307-338
5. Dale, VH, Efroymson RA, Kline KL, Langholtz MH, et al. 2013. Indicators for assessing socioeconomic sustainability of bioenergy systems: A short list of practical measures. Ecological Indicators. 26:87-102.
6. Dale VH, Kline KL, Kaffka SR, Langeveld JWA. 2013. A landscape perspective on sustainability of agricultural systems. Landscape Ecology 28(6):1111-1123.
7. Dale VH, KL Kline, D Perla, A Lucier. 2013. Communicating about bioenergy sustainability. Environmental Management 51(2): 279-290. DOI: 10.1007/s00267-012-0014-4
8. Kline KL and Dale VH. 2008. Biofuels, causes of land-use change, and the role of fire in greenhouse gas emissions. Science 321:199 http://www.sciencemag.org/cgi/reprint/321/5886/199.pdf
9. Efroymson, RA., VH Dale, KL Kline, AC McBride, et al., 2012. Environmental indicators of biofuel sustainability: What about context? *Environmental Management* DOI 10.1007/s00267-012-9907-5
10. Oladosu GA, Kline KL, Leiby P, Martinez R, et al. 2012. Global economic effects of the US biofuel policy and the potential contribution from advanced biofuels. Biofuels 3(6):703-723. http://www.future-science.com/
11. Kline KL, Oladosu GA, Dale VH, McBride AC. 2011. Scientific analysis is essential to assess biofuel policy effects. Biomass and Bioenergy 35 (2011), pp. 4488-4491. http://dx.doi.org/10.1016/j.biombioe.2011.08.011
12. Dale VH, R Efroymson, and KL Kline. 2011. The land use–climate change–energy nexus. Landscape Ecol. DOI 10.1007/s10980-011-9606-2
13. McBride, A, VH Dale, L Baskaran, M Downing, L Eaton, RA Efroymson, C Garten, KL Kline, et al., 2011. Indicators to support environmental sustainability of bioenergy systems. *Ecological Indicators* 11(5) 1277-1289.

14. Kline KL, Parish E, Singh N, Wullschleger S et al. 2011. Collaborators welcome: Global Sustainable Bioenergy Project (GSB). GLP NEWS No. 7 (7-8). http://www.globallandproject.org/newsletter.shtml

15. Kline KL and Coleman MD. 2010. Woody energy crops in the southeastern United States: Two centuries of practitioner experience, Biomass and Bioenergy, Volume 34, Issue 12, Pages 1655-1666, ISSN 0961-9534, DOI: 10.1016/j.biombioe.2010.05.005.

16. Kline KL, Dale VH and Grainger A. 2010. Challenges for Bioenergy Emission Accounting. Science e-letter (2 March 2010) http://www.sciencemag.org/cgi/eletters/326/5952/527#13024

17. Dale VH, Kline KL, Wiens J, and Fargione J. January 2010. Biofuels: Implications for Land Use and Biodiversity. Ecological Society of America Special Report. http://www.esa.org/biofuelsreports

18. Kline KL, Dale VH, Lee R, Leiby P. 2009. In Defense of Biofuels, Done Right. Issues in Science and Technology 25(3): 75-84. http://www.issues.org/25.3/kline.html

19. Hecht AD, Shaw D, Bruins R, Dale VH, Kline KL and Chen A. 2009. Good Policy Follows Good Science - Using Criteria and Indicators for Assessing Sustainable Biofuel Production. Ecotoxicology [18(1):1-4]. First published on-line 19-Dec-08 http://www.epa.gov/OSP/bosc/pdf/Hechtetal08.pdf

20. Dale VH and Kline KL. 2013. Modeling for integrating science and management. Pages 209-240 in D.G. Brown, D. T. Robinson, N. H. F. French, and B.C. Reed (editors), *Land Use and the Carbon Cycle: Advances in Integrated Science, Management, and Policy*, Cambridge University Press.

Languages and Awards

- Native English, fluent Spanish, some Portuguese, Setswana and French
- ORNL Engineering Science and Technology Division 2003 "Exceptional Effort Award"
- USAID Meritorious Honor Award (1988) Certificate of Commendation for Outstanding Performance (1986); Kalamazoo Science Foundation Scholar (1976-1978)
- Certified Cognizant Technical Officer for USAID

More information available at:
http://climatechangescience.ornl.gov/
http://www.ornl.gov/sci/ees/cbes/ and http://www.esd.ornl.gov/eess/global_change/