

ORNL researchers contribute to major bioenergy and sustainability report



ORNL researchers Keith Kline and Virginia Dale contributed to a major United Nations report on bioenergy and sustainability. ([hi-res image](#))

OAK RIDGE, Tenn. (April 16, 2015) – A major multinational report on bioenergy and sustainability released Tuesday concludes the sustainable production of bioenergy can be an important tool for addressing climate change.

Two researchers at the Department of Energy's Oak Ridge National Laboratory contributed to the document, which offers science-based evaluations of bioenergy issues including food and energy crop production and bioenergy as a climate change mitigation strategy.

Keith Kline of ORNL's Environmental Sciences Division contributed to a chapter on land use for the Scientific Committee on Problems of the Environment (SCOPE) Bioenergy and Sustainability Report. "Misconceptions about the availability of land needed for growing food crops and about the opportunities and synergies possible from combined production systems could undermine investment in a key strategy for climate change mitigation," Kline said.

The land use chapter explores the subject of biomass and food crop production, concluding that the two can co-exist or be complementary. Projected land demands for biofuel production fall well within conservative estimates of current and future land availability, and integrated systems for food and energy production can improve food security.

Said Kline, "Biomass production not only has potential to make increasingly meaningful contributions to energy supply but can also support practices to improve management of soils, forests and croplands that are essential for increased mitigation of, and resilience to, impacts of climate change over time."

Virginia Dale, a Corporate Fellow researcher also in ORNL's Environmental Sciences Division, co-authored a chapter on biodiversity and ecosystem services. "Deploying biofuels in a manner to reduce effects on biodiversity and associated ecosystem services can be done with planning, monitoring and appropriate governance," Dale said.

"Negative effects of biofuels can be avoided or reduced by conservation of priority biodiversity areas, recognizing the context-specific effects of biofuels, and adopting location-specific management of production systems. Developing those management strategies takes time and effort," she said.

The SCOPE Bioenergy & Sustainability Report is the collective effort of 137 researchers at 82 institutions in 24 countries that documents and analyzes impacts, benefits and constraints related to the global expansion of bioenergy. Peer reviewed data and scientific evidence from more than 2,000 sources were used to evaluate the documented and predicted effects of expansion of bioenergy production and use on energy security, food security, environmental and climate security, sustainable development and innovation.

SCOPE was established by the United Nations International Council for Science in 1969 as an interdisciplinary body of natural science expertise that addresses constraints of society on the environment as well as the human response to environmental issues. The SCOPE Bioenergy & Sustainability volume is downloadable from <http://bioenfapesp.org/scopebioenergy/index.php>.

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