Atkinson Center for a Sustainable Future Topical Lunch

Title*:* *Environmental and land-based tradeoffs of renewable energy technologies: Impacts and Opportunities*

Host: Jennifer E. Ifft, PhD Assistant Professor, Mueller Family Sesquicentennial Faculty Fellow in Agribusiness and Farm Management, Atkinson Center for a Sustainable Future Faculty Fellow Charles H. Dyson School of Applied Economics and Management

Date: Tuesday April 11, 2017 12:00 – 1:00pm 300 Rice Hall

Jordan Macknick of NREL (National Renewable Energy Laboratory) will provide a summary of the "state of research" on this topic based on his work and then lead a discussion on future research directions.

Abstract: Renewable energy technologies are generally considered to be sustainable alternatives to conventional non-renewable energy technologies, as they generally have limited impacts on greenhouse gas emissions, air quality, and water resources. However, many renewable energy technologies can have large land footprints relative to conventional energy sources, and development practices can have substantial impacts on local and regional ecosystems. In many parts of the country, finding the appropriate site for a large renewable energy project is becoming increasingly difficult, as there are concerns over long-term environmental impacts as well as the effects on regional agricultural economies. This discussion will address key pressing questions, such as: What are the environmental and land-based tradeoffs of renewable energy technologies? How do renewable energy impacts compare with conventional energy impacts? Is renewable energy development compatible with environmental stewardship and sustainable agriculture? This conversation will showcase some of the most recent research on this topic as well as provide real world case studies that are addressing these crucial questions. Specifically, we will discuss innovative ways in which renewable energy can benefit regional agricultural economies, improve soil quality for agricultural purposes, and be integrated into energy-agriculture co-located systems.