Energy and Bioproducts

PHOTO: Arkansas Agricultural Experiment Station

# Land-grant university research helps stakeholders lower costs with renewable energy solutions

*Non-renewable energy sources are limited, and growing demand exacerbates pollution and health issues. Enhancing energy efficiency and developing renewable sources are crucial to meet demand, reduce costs, create jobs and boost rural prosperity. Reducing fossil fuel reliance improves national security and public health. Researchers and educators in the Land-grant University System are finding innovative ways to improve energy efficiency and harness renewables.*

## Here are a few examples of that work:

- Research conducted in **Arkansas** is helping chicken producers target energy conservation efforts. For example, studies led to research-based strategies to reduce power usage during periods of peak demand. Findings have supported the nation's largest meat protein sector reduce their energy consumption and cut costs. *Arkansas Agricultural Experiment Station; AFRI, State Appropriations. See full statement.*
- In **New York**, a network of Regional Clean Energy Hubs was established to provide workshops and one-on-one support and build partnerships with local organizations to empower individuals to make informed decisions for clean-energy home improvements. The initiatives are helping to reduce carbon footprints and address the needs of low to moderate-income populations. *Cornell Cooperative Extension; Smith-Lever (3b&c). See full statement.*
- **Kentucky** researchers are leveraging innovative approaches to convert stillage, a byproduct of bourbon and whiskey production, into renewable natural gas that can be used to power distilling equipment or for other energy needs. In exploring the potential of anaerobic digestion, which uses microorganisms

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The National Land-grant Impacts Database (NIDB) documents the individual and collective impacts of the national Land-grant University System of joint research, education and Extension. Much of this work is supported by capacity and competitive funds through the USDA's National Institute of Food and Agriculture.

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to convert organic material into usable energy sources, the team is helping local industries to save money and create circular economies that can benefit both the environment and local communities. *Kentucky Agricultural Experiment Station; Hatch Multistate. See full statement.*

- Rural sociologists in **Pennsylvania** conducted interviews with farmers and stakeholders to help build an understanding of solar energy development in rural communities and help identify ways to ensure these development processes are mutually beneficial. Their research provides critical information for farmers debating large-scale solar leases and the benefits or drawbacks that may impact their land. *Pennsylvania Agricultural Experiment Station; Hatch. See full statement.*