

## ARKANSAS PROFESSOR USES RENEWABLE ENERGY TO WATER LIVESTOCK

FAYETTEVILLE, Ark. — Kate Shoulders, an assistant professor at the University of Arkansas, is using an integrated energy technology unit to provide water for the livestock at the Savoy Research Unit. Her project demonstrates how renewable energy technology can help improve livestock management practices and save on energy costs.

The integrated unit includes solar and wind technology and is one of four stations that are a part of Shoulders' Renewable Energy Analysis Project (REAP). The unit uses wind and solar power to operate a water well pump to water the livestock at the Savoy Research Unit.

With the help of Richard Roeder, the associate director of the Arkansas Agricultural Experiment Station (AAES), Shoulders sought a station location that was most feasible for the public to witness.

This demonstration at the Savoy Research Unit, one of four near the Fayetteville campus, is used to show agricultural producers how renewable energy can be adapted to a variety of situations.

"[The REAP stations] each show something different," said Shoulders. "The wind energy analysis station harvests energy to run a water pump. The integrated solar/wind station works the same way, but with both solar and wind power. It is less likely to have down time."

Shoulders said producers could want to implement a project like this when a remote location needs to be serviced and is not close to an electrical grid serviced by an electrical cooperative or utility company.

The installation of an integrated solar/wind station would allow properties to increase in value while saving on electricity costs for the operation or home.

"Arkansas is pretty similar overall in its solar and wind opportunities," said Shoulders, making installation of a similar station feasible for most places, though the initial investment may be costly.

Shoulders speaks with interested visitors about renewable energy to help them understand the costs and incentives associated with implementing a station like this on their operation and whether or not it would be affordable. Shoulders said the goal of REAP is to have a hands-on, adaptable experience that can be used to teach people about renewable energy and help them make decisions about employing new practices at their homes or farms.

Rudy Timmerman, owner of Arkansas Wind & Solar, Inc., worked with Shoulders to install the hybrid unit.

"We have assisted several farmers in the past with solar pumps," said Timmerman. "This is our first hybrid wind/solar pump installation."

"All of these [previous] applications were for farms with existing wells," Timmerman said. "However, this technology can be used to pump from other existing water sources...and move water to where it is more convenient for the farmer."

For more information about REAP or to set up a tour, contact Kate Shoulders by phone (479- 575- 3799) or email [cshoulde@uark.edu](mailto:cshoulde@uark.edu).

Image: integratedgroup2-rgb.jpg

Caption: Dr. Kate Shoulders discusses the different technical aspects of the solar and wind integrated demonstration inside the well house at the Savoy Research Unit.