

# SEE

## Sustainable, Energy-Efficient Farming Practices & Incentives

Information from the  
Mississippi Development Authority

## Rural Energy Projects in Mississippi

The **Mississippi Development Authority's Energy Division** has partnered with the **National Association of State Energy Offices** to promote energy awareness in the agriculture industry. The project is entitled "**Promoting Energy Projects in Economically Distressed Counties in Mississippi**" and is made possible through the USDA Rural Business Opportunity Program.

This publication is the first step in our informational outreach. We

want to peak your interest in the economic and environmental advantages of investing in energy efficient and renewable energy technologies. In these pages, you will discover some of the organizations that are working to promote energy in agriculture and aquaculture as well as their current projects and/or past case studies. We hope that you find the information on financing, farming applications and technologies as well as the highlights

about sustainable farming practices in and around our state useful in your business.

The Energy Division administers programs that offer technical services and promote energy awareness to benefit homeowners, farmers, manufacturers, commercial businesses, fleet operators, local governments, state agencies and public institutions.

### What's Inside:

Rural Energy Projects in Mississippi	Cover
25 x '25 Alliance	Page 1
Energy Division of the Mississippi Development Authority	Page 1
Bright Hopes: The Future of Solar Energy	Page 2
Mississippi Delta Biobased Products	Page 3
Conserving Fuel on the Farm	Pages 4-6
Renewable Energy Sources	Page 6
Solar Feasibility	Page 7
The Benefits of Geothermal Energy	Page 8
Farm Energy Audits	Page 8
P-2-P Energy Systems	Pages 9-10
Funds for Poultry House Tree Buffers	Pages 11-12
Sustainable Agriculture: An Introduction	Page 13
Biodiesel: Alternative Energy From Mississippi Fields	Page 14
Case Study: LA Farms	Page 15
Something Fishy: Geoexchange Technology	Page 16
Renewable Energy & Efficiency Program (Section 9006 Grants)	Pages 17-18
Financial Grants & Loan Programs	Back Cover



# The Benefits of Geothermal Energy

Yellowstone is not just a geyser. Besides being a great place to visit, this favorite tourist destination is a great example of geothermal energy.

Impressive as Yellowstone is, it's just one small example of an incredibly huge source of clean, sustainable energy.

Geothermal energy—literally, heat from the earth—is a clean, abundant and versatile natural resource that's just waiting to meet the world's steadily escalating energy needs. This source of energy can be used three ways: for electricity production, directly to provide heat and via geothermal heat pumps.

Today, geothermal resources already supply about six percent of the energy produced in California, 10 percent in northern Nevada, 25 percent on the island of Hawaii, as well as significant power in Utah. Geothermal steam and hot water are routinely used to generate electric

power with little environmental impact.

Thermal waters piped from the ground support greenhouses, fish farms and municipal heating systems. Heat pumps use electricity and coils, or pipes buried in the earth to extract heat or cold from the earth. They can be installed almost anywhere and are widely considered the ideal means for heating and air-conditioning schools, homes and workplaces.

Geothermal energy has been described by energy experts as "buried treasure." This tremendous resource amounts to 50,000 times the energy of all oil and gas resources in the world.

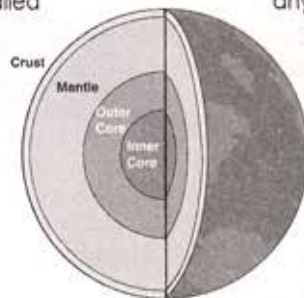
This form of energy represents a promising energy supply solution, as people

become more concerned about global warming, pollution and rising fossil energy prices. Geothermal energy produces only one-sixth of the carbon dioxide that a relatively clean, natural gas-fueled power plant produces and very little, if

any, nitrous oxide or sulfur-bearing gases. No air emissions or liquids are discharged by binary geothermal plants.

Heating systems can easily be integrated into existing communities and can diminish reliance on foreign sources of fossil fuels.

The U.S. Department of Energy's Geothermal Technologies program is working with industry to establish geothermal energy as an economically competitive contributor to the nation's energy supply. For more information, visit [www.doe.gov](http://www.doe.gov).



## Farm Energy Audits

### Good for Farmers and the Environment

Agriculture has always been the backbone of American society. Farmers across the United States know the state of the land and what it takes to make a farm successful. But what if their farm could help the environment while still turning a profit? What if they could reduce energy costs without reducing production? How would a farmer know where to begin?

Farmers need customized solutions for energy efficiency. That's where a farm energy audit can help. Energy audits can be tailored to each farmer's needs and objectives. A good energy audit educates the farmer about energy efficiency while providing them with decision-making tools they can use. It can give them solid information about equipment they want to install, and help them prioritize any larger, long-term upgrade of machinery and equipment. The USDA now has grant and loan programs for energy efficiency and renewable energy, and energy audits play a

part of the application process.

Energy audits generally start with an initial interview with the farmer to gather information about their operation. Data is then collected about the equipment the farmer currently owns including lighting, ventilation, compressors, motors and anything else that the farmer uses in his day-to-day operations. Data is also gathered from the farmer's energy usage history. Once collected, it is analyzed and a report is given, detailing what changes can help save money and energy.

The savings from an energy audit can be quite dramatic. For example, an Alabama poultry farmer had an energy audit performed courtesy of EnSave, Inc. In the course of the audit, it was determined that by changing the lights in the chicken houses, and by installing new fans and



radiant heating, significant energy saving could be attained. All in all, he saved over \$900 yearly in electricity costs, over \$4,000 in propane savings and gained an estimated \$5,000 annually in additional income from productivity gains.

As energy and fuel prices climb, farmers need to stay competitive. An energy audit can help farmers learn the best ways to save energy and money while maintaining, and even improving, production. The USDA's Farm Bill grants and loans for energy efficiency and renewable energy can help cost-share some of the investment in energy efficient technologies.

To learn more about farm energy audits, please contact Lynn Knight, Program Development Manager, at 800.732.1399 ext. 842. To find out more about EnSave, please visit them online at [www.ensave.com](http://www.ensave.com).