



Advanced Energy in Arkansas

Arkansas has emerged to take a leading role in the burgeoning advanced energy industry, which encompasses all the technologies, products, and services that make energy in the U.S. more secure, clean, and affordable.

Advanced energy is characterized by the benefits it provides in the field and in the marketplace. Electric and plug-in hybrid cars, lightweight composites for airplane bodies, natural gas fueled trucks, high-performance buildings, more efficient industrial processes, and the latest wind, solar, and nuclear technologies – these are all advanced energy, as they use energy more productively, diversify energy sources, and reduce health and environmental costs.

Advanced Energy Companies in Arkansas²

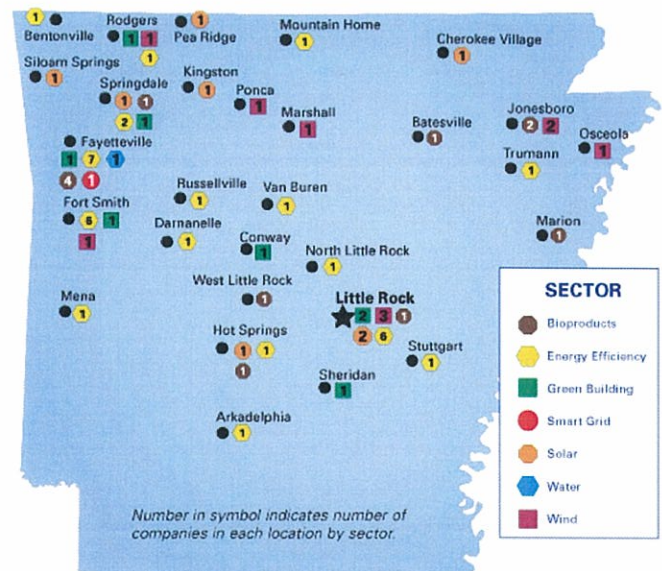
At a time when company growth and job creation are at a premium, advanced energy in Arkansas has been a source for both:

- Arkansas Advanced Energy Association has 21 member companies with over **1,000 workers**.
- Advanced energy companies can be found all across the state.
- Arkansas has more than **100 companies** with operations in the state tied to advanced energy, employing an estimated 10,000 to 15,000 Arkansans.

Why Advanced Energy Companies are Good for Arkansas

The wind energy manufacturing industry is particularly strong in Arkansas, with turbine manufacturer Nordex investing over \$100 million in its Jonesboro plant and LM WindPower creating over 300 jobs at its Little Rock factory. As a result, German steel component manufacturer Beckmann Volmer and others have developed facilities nearby.

The state is home to a diverse array of companies involved in everything from energy efficiency to geothermal power. One example is NexGen Illumination,



which manufactures LEDs and leads the niche LED poultry house lighting market. Biofuel companies are also flourishing in Arkansas, with FutureFuel Chemical Co. employing over 500 people to support its biodiesel production facility.

In an entirely different realm, Clean Line Energy Partners, a developer of high voltage transmission lines, plans to invest \$600 million in Arkansas to transmit wind energy across the state from Oklahoma to TVA.

Why Arkansas is Good for Advanced Energy Businesses

Business Climate:

Arkansas presents companies with an attractive business environment and low cost of living. In a recent CNBC study, the state was ranked number one in the country for cost of doing business, as a right-to-work state with a relatively low corporate tax rate.

Policy:

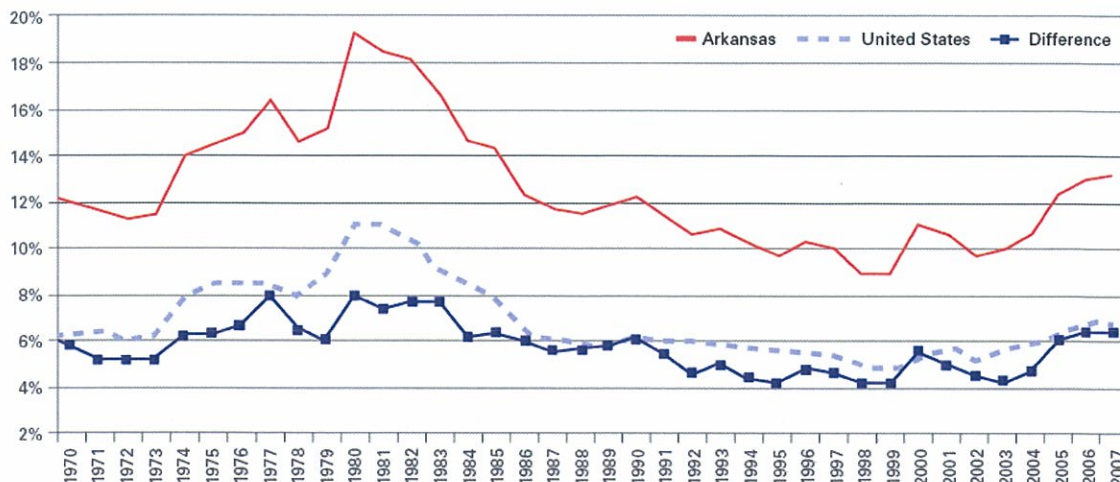
Arkansas' energy consumption per capita (365 million Btu) ranked it 17th highest in the United States in 2009. As a result, Arkansas spends a significant portion of its gross state product on energy (see chart below). Most of this energy must be imported. For example, over 47% of Arkansas's electricity is generated by coal, which is extremely limited in state. The situation has prompted policymakers to encourage advanced energy development as a mechanism for reducing energy costs and keeping energy spending in state. In late 2010, Arkansas became the first southeastern state to enact an Energy Efficiency

Resource Standard (EERS). To support efficiency measures at utilities, Arkansas has "decoupled" its natural gas industry, although there are no decoupling laws for electricity. These efficiency policies complement the state's wind manufacturing incentive, which has drawn new manufacturers to Arkansas. For advanced transportation, the Arkansas Alternative Fuels Development Fund provides incentives for capital projects, operations, production, and distribution of alternative fuel in state.

Location and Infrastructure:

Arkansas has rail and trucking freight industries that leverage the state's central location to move goods across the country. Arkansas has ready access to the shipping lanes of the Arkansas and Mississippi Rivers, which provide critical connections to the Gulf of Mexico. Companies ranging from wind manufacturing to bio-diesel industries rely on this linkage to the Gulf for both component sourcing and product distribution.

Energy Expenditures as a Percentage of Gross Products, 1970-2007



Source: U.S. Energy Information Administration, State Energy Data System, Data Files, All States and All Years, Consolidated Data File (1.1 million records), May 2010.

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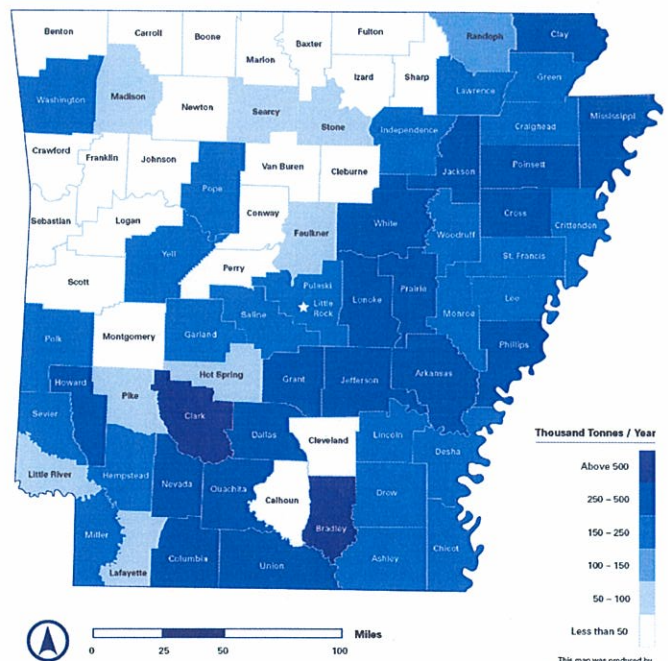
Supportive Programs and Institutions:

Research in the advanced energy industry is being performed at top universities and research centers in Arkansas, including the University of Central Arkansas, Arkansas Research and Technology Park, National Center for Appropriate Technology, University of Arkansas, Arkansas State University, and Philander Smith University. Pulaski Technical College and NorthWest Arkansas Community College have established a Building Training Center of Excellence to train energy auditors, energy raters, weatherization workers, and workers in the heating and cooling industries.

Resources:

Arkansas also has natural resources, including biomass and geothermal, for the advanced energy industry to leverage. The map depicts the state’s strong biomass resources.

Arkansas Biomass Resources



This study estimates the technical biomass resources currently available in the United States by county. It includes the following feedstock categories:
 - Agriculture residues (straw and animal manure)
 - Wood residues (sawdust, primary mill, secondary mill, and urban wood)
 - Municipal solid waste (methane emissions from landfills and domestic wastewater treatment)
 - Dedicated energy crops (switchgrass on Conservation Reserve Program lands).
 See additional documentation for more information at <http://www.nrel.gov/docs/2006/03/101.pdf>

This map was produced by the National Energy Laboratory for the U.S. Department of Energy, September 25, 2007