

# Arkansas *Biomass and Bioenergy Overview*

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## GENERAL OVERVIEW

In 2003, Arkansas consumed an estimated 1,370.7 trillion Btu (331.99 billion kWh) of energy, ranking 30<sup>th</sup> nationally.<sup>1</sup> Petroleum accounted for about 34 percent of total consumption, with coal and natural gas each providing another 22 percent of the state's energy. Another major energy source was nuclear energy, which accounted for approximately 13 percent of the state's total energy consumption, respectively. Biomass supplied over 80.4 trillion Btu (23.6 billion kWh), or about 7 percent of Arkansas's total consumption, ranking it 14<sup>th</sup> compared to other states nationwide.<sup>1</sup>

Arkansas's total energy consumption increased by over 230 trillion Btu (67.4 billion kWh) between 1980 and 2001, an average annual increase of 1.1 percent. Electricity consumption increased by over 51.9 billion Btu (15.2 million kWh), an annual increase of 2.2% over the same period. Annual per capita petroleum use for transportation was estimated to be 18 barrels for 2001, an increase of 2.7 barrels since 1980.<sup>2</sup>

It has been estimated that 19.8 billion kWh of electricity could be generated using biomass fuels in Arkansas. This would provide 150% of the electricity

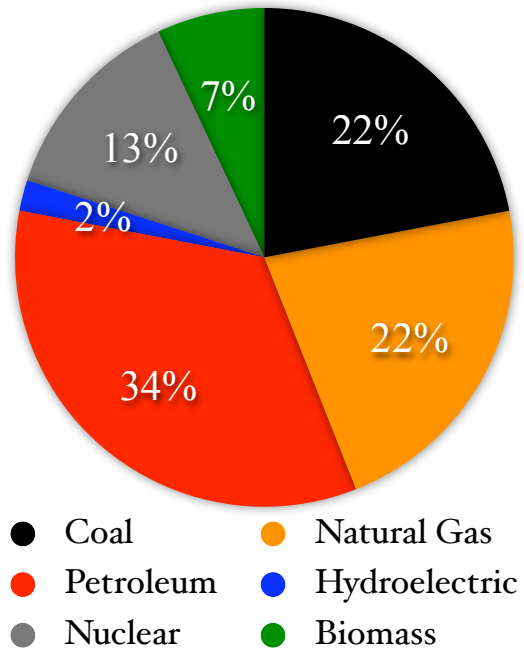
## FOREST-BASED RESOURCES

Arkansas has over 18.7 million acres of forestland, 18.3 million of which is considered timberland.<sup>4</sup> In 2002, softwood removals were 593.5 million cubic feet and hardwood removals were 407.7 million cubic feet.<sup>5</sup>

Based on 2003 data, logging residues provide 2.03 million dry tons of woody biomass per year.<sup>7</sup> Additionally, an estimated 2.5 million dry tons of milling residues could be available for use in bioenergy. This represents 43% of the total residues produced.<sup>6</sup>

Urban wood waste in the state could contribute another 314,000 dry tons of biomass annually.<sup>8</sup>

**Arkansas Energy Consumption by Source, 2003**



Source: Energy Information Administration<sup>1</sup>

the state currently uses.<sup>3</sup>

## AGRICULTURAL RESOURCES

Arkansas has approximately 9.6 million acres of cropland.<sup>9</sup> The state could produce 3.2 million dry tons of agricultural biomass resources annually.<sup>6</sup> Usable field residues account for 2.2 million dry tons of this residue. The primary source of these residues is rice, accounting for 1.8 million dry tons.<sup>6</sup> Other sources are corn, cotton, and wheat residues. Processing residues can also provide an additional 987,000 dry tons per year, with the majority of that coming from the rice industry (898,000 dry tons).<sup>6</sup> Energy crops, another important agricultural sector, could provide an estimated 5,510,000 dry tons of biomass annually in Arkansas.<sup>6</sup>

Livestock manure also provides another significant resource. Cattle manure provides 2.2 million dry tons

of manure annually.<sup>6</sup> Swine manure annually provides 26,500 dry tons of material.<sup>6</sup> Another 1.2 million dry tons of poultry litter is produced annually.<sup>6</sup>

**CURRENT ACTIVITIES**

The Arkansas Clean Cities Biodiesel Infrastructure Project established a tank and injection fueling system at a terminal in North Little Rock. Biodiesel is provided to public and private fleets using an automated card reading system at a retail outlet. Fuel haulers are able to load and deliver ASTM grade biodiesel with the use of the fuel blender.

The fuel blender, card reader, retail location, labor, and equipment were all procured through a \$97,000 grant awarded by the State Energy Program of the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy.<sup>10</sup>

A biodiesel production facility constructed in 2005 in Batesville was the state’s first. Approximately 400 people are employed by the facility which produces 6 million gallons of biodiesel annually according to company reports. Eighty-five percent of the raw material used in this facility is provided by soybeans, Arkansas’ largest crop.<sup>11</sup>

Arkansas also currently has two landfills that are producing methane for energy production and another 5 identified as potential sites.<sup>12</sup>

Net metering rules were approved by the Arkansas Public Service Commission in July 2002. Under these rules, residential renewable energy systems capable of generating up to 25 kilowatts (kW) and commercial

<b>Arkansas’s Biomass Resources</b>	
<b>Corn Produced (Silage and Grain)<sup>15</sup></b>	783,840 tons
<b>Soybeans Produced<sup>15</sup></b>	3,223,500 tons
<b>Wheat Produced<sup>15</sup></b>	558,150 tons
<b>Conservation Reserve Program<sup>16</sup></b>	220,275 acres enrolled
<b>Municipal Solid Waste<sup>17</sup></b>	2,826,602 tons generated
<b>Logging Residues<sup>7</sup></b>	2.03 million dry tons
<b>Poultry<sup>15</sup></b>	1,256,674,000 head
<b>Livestock<sup>15</sup></b>	2,038,000 head

systems capable of 100 kW are eligible for net metering. Biomass systems are included as eligible systems.<sup>13</sup>

Arkansas has also passed Green Building Standards for State Facilities. All state agencies are encouraged to use green building standards when funding and conducting a state building project. This includes the use of composite wood, renewable bio-based materials, carbon sequestering bio-based materials, and bio-based materials from other certified sources.<sup>14</sup>

**LINKS TO OTHER ARKANSAS RESOURCES**

Arkansas Department of Economic Development, Energy Office <http://www.1800arkansas.com/energy/>

Arkansas Agriculture Department <http://aad.arkansas.gov/>

Arkansas Forestry Commission <http://www.forestry.state.ar.us/>

**CITATIONS**

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- 12) U.S. Environmental Protection Agency Landfill Methane Outreach Program Active Program Map (April 3, 2007). <http://www.epa.gov/lmop/docs/map.pdf>
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- 14) Arkansas Incentives for Renewables and Efficiency, Green Building Standards for State Facilities. <http://www.dsireusa.org/library/includes/map.cfm?State=AR&CurrentPageId=1&RE=1&EE=1>
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