



Southeastern Biomass/Bioenergy Overview

FACT SHEET 2.2

Special Note: The logging and processing wood residues data presented in this regional overview was obtained from the USDA Forest Service Forest Inventory and Analysis Unit Timber Product Output Data. The data is used here to provide a consistent comparison across the states in the southeastern region. When comparing this data to the data in the individual state fact sheets, you may find discrepancies between the two. In the state fact sheets, data is presented to show the current estimation of woody biomass in that state and comes from reliable, cited sources produced in that state. The calculations of these estimations vary widely and are not comparable across states. Any differences between the USDA FIA data and individual state data simply represent the broad range estimates available and are presented to provide you with the most comprehensive information available.

GENERAL OVERVIEW

In 2003, the 13 southeastern states consumed an estimated 40,007.3 trillion Btu (11.7 trillion kWh) of energy, using 40.6 percent of the total energy consumed in the United States that year.¹ On average, petroleum-based energy sources accounted for about 40.2 percent of

total consumption, with natural gas providing another 24 percent. Other major energy sources were coal (20.8 percent) and nuclear (8 percent). Biomass, on average, supplied more than 1,247.5 trillion Btu (365.6 billion kWh), or about 3 percent of the Southeast's total consumption.¹

STATES	FORESTLAND (MIL ACRES) ²	LOGGING RESIDUES (MIL DRY TONS) ³	PROCESSING RESIDUES (MIL DRY TONS) ³	URBAN WOOD WASTE (MIL DRY TONS) ⁴
Alabama	23.0	2.70	2.05	0.48
Arkansas	18.7	2.03	1.63	0.31
Florida	16.5	1.30	0.75	1.68
Georgia	24.7	3.50	2.10	0.92
Kentucky	12.0	1.20	0.46	0.45
Mississippi	19.8	3.60	1.98	0.31
North Carolina	18.7	2.30	1.57	0.83
South Carolina	12.4	1.60	0.84	0.46
Tennessee	14.4	0.76	0.62	0.61
Virginia	15.8	1.70	0.87	0.81
Louisiana	13.8	3.01	1.38	0.47
Oklahoma	7.7	0.66	0.25	0.37
Texas	11.9	1.40	1.46	2.31
<i>Region Total</i>	<i>209.4</i>	<i>25.76</i>	<i>15.96</i>	<i>10.01</i>

Table 1. Forest-related Biomass Sources of the Southeast

Jackson, S. 2007. Southeastern Biomass/Bioenergy Overview.

In: Hubbard, W.; L. Biles; C. Mayfield; S. Ashton (Eds.). 2007. Sustainable Forestry for Bioenergy and Bio-based Products: Trainers Curriculum Notebook. Athens, GA: Southern Forest Research Partnership, Inc.



STATE	CROPLAND (MIL ACRES) ⁵	CRP LAND (THOUS ACRES) ⁶	CORN (MIL TONS) ⁷	SOYBEANS (MIL TONS) ⁷	WHEAT (THOUS TONS) ⁷	POULTRY (MIL HEAD) ⁷	LIVESTOCK (MIL HEAD) ⁷
Alabama	3.7	491.6	0.41	0.09	78.3	1121.6	1.5
Arkansas	9.6	220.3	0.78	3.20	558.1	1256.7	2.0
Florida	3.8	84.3	0.56	0.00	6.3	89.6	1.8
Georgia	4.7	306.3	1.40	0.11	176.4	1495.6	1.5
Kentucky	8.4	354.1	5.60	1.80	681.6	311.3	2.9
Louisiana	5.1	288.5	1.20	0.88	166.9	199.8	0.88
Mississippi	5.8	951.3	1.10	1.30	129.2	834.1	1.3
North Carolina	5.4	133.7	3.50	1.30	733.4	808.1	1.0
Oklahoma	14.8	1056.0	1.20	0.11	2448.0	263.0	7.7
South Carolina	2.3	213.2	1.10	0.34	184.5	243.3	0.74
Tennessee	7	276.5	2.50	1.30	384.8	2.6	2.7
Texas	11.9	4044.9	7.30	0.11	1008.0	672.7	17.1
Virginia	4.2	65.7	3.40	0.47	316.2	267.2	2.1
<i>Region Total</i>	<i>86.7</i>	<i>8486.4</i>	<i>30.05</i>	<i>11.01</i>	<i>6871.7</i>	<i>7565.6</i>	<i>43.22</i>

Table 2. Agricultural Biomass Sources of the Southeast

FOREST BIOMASS RESOURCES

The states of the Southeast have more than 209.4 million acres of forestland. The area accounts for almost 28 percent of the total 749 million acres of forest land in the United States. This forest land can provide a variety of biomass types. Wood from operations such as harvesting or logging residues, intermediate thinning, and the processing of wood materials all provide a source of biomass for use in energy and products. Logging residues in the region can provide an estimated 25.8 million dry tons of biomass each year. The processing of wood products also provides 15,977,110 dry tons of residues, such as bark, sawdust, and shavings each year. Urban wood wastes could also contribute 10.1 million dry tons of biomass each year.

biomass, such as corn, soybeans, and wheat. This cropland and other farm lands also have the potential to produce dedicated energy crops, such as switchgrass. Farms in our region produce more than 30 million tons of corn, 11 million tons of soybeans, and 6 million tons of wheat each year. In addition to the grain harvested from these crops, the crop residues, such as stalks, provide a large biomass resource. The management of Conservation Reserve Program land is also a consideration for producing biomass for energy. The region has 8.5 million acres of CRP land, some of which could possibly be used for energy production.

Manure and litter management for methane production, combustion, and other uses is also important. The Southeast has 7.5 billion head of poultry and more than 43 million head of livestock.

AGRICULTURAL RESOURCES

The Southeast has more than 86.7 million acres of cropland that can produce traditional crop





STATE	MUNICIPAL SOLID WASTE (MIL. TONS) ⁸	LANDFILL METHANE PROJECTS (#) ⁹
Alabama	7.0	3
Arkansas	29.2	11
Florida	8.1	7
Georgia	6.2	4
Kentucky	3.2	1
Louisiana	8.1	11
Mississippi	4.3	4
North Carolina	12.9	6
Oklahoma	12.0	16
South Carolina	2.8	2
Tennessee	6.3	3
Texas	5.3	3
Virginia	45.9	19
<i>Region Total</i>	<i>151.3</i>	<i>90</i>

Table 3. Other Resources of the Southeast

OTHER RESOURCES

Other resources that can provide biomass for energy and products are also abundant in the Southeast. Municipal solid waste (MSW) is one of these sources. MSW produced annually in the region totals 151 million dry tons. One way of harnessing the energy production value of MSW is through the collection of methane at landfills. The region has 90 landfills actively involved in collecting methane.

SUMMARY

The southeastern United States has an abundance of biomass sources for use in bioenergy and bioproducts. This publication simply provides a snapshot of these resources. Please review each individual state's fact sheet for more detailed information. The potential for biomass is great and it is an opportunity for a more secure future.

ENDNOTES

- 1 U.S. Department of Energy, Energy Information Administration, "Table S3. Energy Consumption Estimates by Source, 2003." http://www.eia.doe.gov/emeu/states/sep_sum/html/pdf/sum_btu_tot.pdf
- 2 Forestland data derived from various state forestry agencies. See individual state fact sheets for citations.
- 3 U.S. Department of Agriculture Forest Service, Forest Inventory and Analysis Unit. Timber Product Output Data 2003. <http://srsfia1.fia.srs.fs.fed.us/php/tpo2/tpo.php>
- 4 Milbrandt, A. A Geographic Perspective on the Current Biomass Resource Availability in the United States. 2005. U.S. Department of Energy, National Renewable Energy Laboratory. <http://www.nrel.gov/docs/fy06osti/39181.pdf>
- 5 U.S. Department of Agriculture, National Agricultural Statistics Service. 2002 Census of Agriculture. <http://www.nass.usda.gov/>
- 6 U.S. Department of Agriculture, Farm Service Agency. Conservation Reserve Program Summary and Enrollment Statistics, FY 06. http://www.fsa.usda.gov/Internet/FSA_File/06rpt.pdf
- 7 U.S. Department of Agriculture, National Agricultural Statistics Service. 2006 Statistics by Commodity. Accessed May, 2007. <http://www.nass.usda.gov/>
- 8 Simmons, P., N. Goldstein, S. Kaufman, N. Themelis, and J. Thompson Jr. 2006. The State of Garbage in America. *BioCycle*. 47(3) April 2006. PP. 26–43. <http://www.jgpress.com/biocyclus.htm>
- 9 U.S. Environmental Protection Agency Landfill Methane Outreach Program Active Program Map (May 13, 2007). <http://www.epa.gov/lmop/docs/map.pdf>

