

Appendix B.

Select bioenergy policies of Southern States

Policies were gathered through the Database of State Incentives for Renewables & Efficiency (DSIRE), online searches, and personal interviews.

State	Program/Policy	Policy type	Brief summary
Alabama	Wood Burning Heating System Deduction ¹	Incentive-based	Individual taxpayers can get a deduction for the installation of a wood-burning heating system. The deduction is equal to the total cost of installation for the conversion from gas or electricity to wood when the system is used as the primary energy source for heating a home. The deduction must be taken for the taxable year during which the conversion was completed. Note that this incentive is for the conversion of an existing system and not for the first-time installation of a wood-burning system.
	The Biomass Energy Program	Incentive-based	Assists businesses in installing biomass energy systems. Program participants receive up to \$75,000 in interest subsidy payments to help defray the interest expense on loans to install approved biomass projects. Technical assistance is also available through the program. Industrial, commercial and institutional facilities; agricultural property owners; and city, county, and state government entities are eligible. Interested parties must obtain loans from commercial lending institutions and submit repayment data to ADECA for interest payment assistance. Interest rates on loans should be no greater than 2% above the prime rate. With an initial emphasis on wood waste, the program also promotes landfill gas as a potential source of energy for industrial processes and other uses. Several landfill waste disposal facilities across Alabama have been identified as prime candidates for landfill gas recovery and utilization. There is a website which provides detailed information about this project, as well as a power point presentation regarding the history of a program, an example of the program brochure which can be provided to interested parties, and some case studies of the program. ²
	Agriculture Energy Program Projects Farmer Education and Demonstration Program for Biofuel Feedstock Production in Alabama, Auburn University	Support programs	<p>The objective of this project is to conduct demonstrations and educational activities to instruct farmers on how to grow non-traditional energy crops for biofuel production. A seminar for county extension agents and three field days for farmers and county extension agents will be held providing information and instruction on energy crop production, harvesting and transport, and bioenergy in general.</p> <p>In conjunction with the field days and through county agents and additional meetings as necessary, farmers will be recruited and signed up to supply feedstock to Alabama's first cellulosic biofuel production facility. In addition, five to ten farmers will be identified to plant and establish 10-acre test plots of Alamo switchgrass. Another phase of the project will involve the establishment, demonstration and evaluation of low input alternative energy crops (sugarcane, sweet sorghum, turnips, sugar beets, cassava, and sweet potatoes) for small scale biofuel production. Biofuel conversion equipment will be tested and data collected on the conversion of various crops to biofuel. These components will then be integrated into a total system approach and evaluated on an economic basis for the small scale production of biofuel on farms in Alabama. Byproducts from the conversion process will be utilized to assess palatability and growth performance of livestock.</p>
	Agriculture Energy Program Projects Demonstrating Combined Heat and Power Generation from Biomass Residues Indigenous to Alabama, Auburn University	Support programs	Auburn University will demonstrate a BioMax 25 modular bipower system designed to use gasification technology to convert a variety of biomass residues (e.g. wood chips, nutshells, pits, prunings, pelletized agricultural materials including switchgrass, poultry litter, and corn stover) into power, heat/cooling, and liquid fuels for farmers, enterprises, schools, homes and small communities. The system will be purchased and retrofitted so that it can be transported and demonstrated on a mobile trailer. The system will be demonstrated at major on-campus events, a poultry farm, and at a minimum of twelve stops on a tour throughout the state. This statewide tour will include stops at regional extension offices, public schools and colleges, the state capitol building, and agricultural-based facilities across the state.

	Agriculture Energy Program Projects Biodiesel Production and its Value-Added Products for Small Farms, Alabama A&M University	Support programs	Alabama A&M will establish an outreach program to demonstrate and educate farmers about the feasibility and economic benefits of growing canola for small scale biodiesel production and additional value-added products for agricultural operations. Five to ten acres of winter canola will be grown in five locations across the state (Limestone, Madison, Marshall, Lee, and Baldwin Counties). Each location will be used as a demonstration site to educate area farmers on production practices for winter canola. The canola will be harvested and oil will be extracted from the seeds and converted to biodiesel on-site at each location. A variety of pelletized food products will be formulated and produced from the canola meal for fish farming, poultry and small ruminant production, and fertilizer / soil amendments for organic crop production. The canola meal will also be used in combination with other plentiful resources such as saw dust and poultry litter to formulate solid fuel pellets with high Btu capacity for potential combined heat and power use.
	Agriculture Energy Program Projects Low Pressure Nozzles – Improving Irrigation Energy Efficiency, Alabama Cooperative Extension System	Support programs	This project will demonstrate the energy efficiency of retrofitting irrigation systems with low pressure drop nozzles at six to twelve farms in the state. An energy cost reduction of 45% is expected from these retrofits. Energy usage and cost data will be collected and analyzed with project results disseminated at grower production meetings, published in regional farm publications and electronic media, and included in Extension sponsored farm tours.
	Agriculture Energy Program Projects Low-Cost Energy Retrofits for Alabama Broiler Houses Using Emerging Sealing, Insulation, and Lighting Technologies, Auburn University	Support programs	Auburn University will demonstrate and compare energy savings for poultry farms through alternative sealing and insulating technology combinations and cold cathode lighting retrofits. The project will be conducted at two poultry farms in Blount County. Data including propane and electricity consumption and cost, total energy usage and cost, pounds of live weight produced, feed conversion and standard cost will be recorded and analyzed. Results of the project will be disseminated through instructional on-farm demonstration tours, educational meetings, and Extension educational materials.
	Center for Alternative Fuels	Support programs	It is within the Alabama Department of Agriculture and Industries, and promotes alternative fuels as a viable energy source in the state. The Center assesses current status and development of sources of alternative fuels, ensures that all alternative fuels sold in the state meet American Society for Testing and Materials (ASTM) standards, and acts as an information center for alternative fuels, as well as a clearinghouse for available federal grant funding for alternative fuel development. The Center is also responsible for administering a grant program funded by an income tax check-off program through the Alabama Alternative Fuels and Research Development Fund. ³
Arkansas	Alternative Fuel Grants	Incentive-based	The Arkansas Alternative Fuels Development Fund includes three types of grant incentives available beginning January 1, 2007. The grants include capital and operation incentives for alternative fuel producers and feedstock processors, production incentives for feedstock producers, and distribution incentives for alternative fuels distributors. Alternative fuel producers can receive up to \$0.20 per gallon of alternative fuels produced, not exceeding \$2 million. Feedstock processors can receive up to \$2 million for the construction, modification, alteration, or retrofitting of feedstock processing facilities that are located and operated in Arkansas. Alternative fuel distributors can receive \$50,000 to assist with the distribution and storage of alternative fuels or alternative fuels mixture at distribution facilities that are located and operated in Arkansas. Funding is available through July 1, 2009. ⁴
	Idle Reduction Technology Loans	Incentive-based	The Arkansas Department of Environmental Quality has a small business loan program that provides low-interest loans to Arkansas small businesses to institute pollution control measures as required by state and federal law or to institute pollution prevention measures that reduce the amount of pollution produced by businesses. Idle reduction technologies for heavy-duty trucking applications are eligible for this loan. An eligible business must employ no more than 100 individuals and demonstrate proof of profitability and the ability to repay the loan.

	Green Building Standards for State Facilities ⁵	Regulatory mechanism	<p>Effective July 1, 2005, the Arkansas Energy and Natural Resources Conservation Act encourages all state agencies, including institutions of higher education, to use Leadership in Energy and Environmental Design (LEED) and Green Globes rating systems whenever possible and appropriate in conducting or funding a public building project. The act includes Arkansas-specific provisions for LEED and Green Globes certification. Under these provisions, those pursuing LEED certification can take additional credits for the use of composite wood and agrifiber products, post-consumer recycled content, renewable bio-based materials, carbon-sequestering bio-based materials, and bio-based materials from other certified sources. Those using the Green Globes rating system can earn additional points for carbon-sequestering bio-based materials and bio-based materials from certified sources.</p> <p>The act also establishes the Legislative Task Force on Sustainable Building Design and Practices to continue work on issues related to sustainable design and practices for state buildings, to serve as an educational reference, and to review the related practices of state agencies.⁶</p>
	Net-metering ⁷	Regulatory mechanism	<p>In April 2001, Arkansas enacted legislation (HB 2325) directing the Arkansas Public Service Commission (PSC) to establish net-metering rules for certain renewable-energy systems. The PSC approved final rules for net metering in July 2002. Subsequent legislation enacted in April 2007 (HB 2334) bolstered the existing statute by increasing the availability of net metering, improving the law's provision for the carryover of net excess generation (NEG), and clarifying the ownership of "renewable-energy credits" (RECs).</p> <p>Residential renewable-energy systems up to 25 kilowatts (kW) in capacity and nonresidential systems up to 300 kW in capacity are eligible for net metering. Eligible technologies include solar, wind, hydroelectric, geothermal and biomass systems, as well as fuel cells and microturbines using renewable fuels. There is no limit on the aggregate capacity of all net-metered systems. The 2007 amendments allow net-metered customers to carry over any NEG to their following monthly bill at the utility's retail rate. Any NEG remaining at the end of an annual billing cycle is granted to the utility. (Previously, NEG was granted to the utility monthly.) In addition, the 2007 amendments clarified that net-metered customers own RECs.⁸</p>
	Biofuels Use Requirement	Regulatory mechanism	<p>The Arkansas Alternative Fuels Development Act establishes an annual goal of 50 million gallons of alternative fuels produced at production facilities in the state by October 6, 2008. Furthermore, by January 1, 2009, all diesel-powered motor vehicles, light trucks, and equipment owned or leased by a state agency must be operated using diesel fuel that contains a minimum of 2% biofuels by volume. Waivers to the 2% biofuels standards for state agency vehicles may be granted if the fuel is not available in certain geographic area or if the fuel is at least \$0.15 cents more expensive per gallon than the petroleum equivalent. The Arkansas Bureau of Standards will work to ensure fuel quality standards.⁹</p>
Florida	Florida Renewable Energy Tax Incentives Program ¹⁰	Incentive-based	<p>The Florida Energy Act established provisions for 1) sales tax exemptions and 2) corporate income tax credits aimed at promoting infrastructure development that supports hydrogen and biofuel technologies. In addition, the Act created a production tax credit which provides a corporate income tax credit based on the amount of electricity produced from renewable energy sources at a new or expanded Florida facility. The production tax credit is administered by the Department of Revenue.</p>
	Sales Tax Program	Incentive-based	<p>Through July 1, 2010, the sale or use of the following is exempt from Florida state sales, rental, use, consumption, distribution, and storage tax: 1) hydrogen powered vehicles and related materials, and hydrogen refueling stations, up to a maximum of \$2 million in taxes in each fiscal year for all taxpayers; 2) materials used in the distribution of biodiesel (B10-B100) and ethanol (E10-E100), including refueling infrastructure, transportation, and storage, up to a maximum of \$1 million in taxes in each fiscal year for all taxpayers. Gasoline refueling station dispenser retrofits for ethanol (E10-E100) distribution also qualify for this exemption.¹¹</p>

	Infrastructure Investment Tax Credit Program	Incentive-based	For tax years beginning on or after January 1, 2007, a credit against either the corporate income tax or the franchise tax will be granted in an amount equal to the eligible costs. Credits may be used in tax years beginning January 1, 2007, and ending December 31, 2010, after which the credit shall expire. Eligible costs are defined as: seventy-five percent of all capital costs, operation and maintenance costs, and research and development costs incurred between July 1, 2006, and June 30, 2010, up to a limit of \$3 million per state fiscal year for all taxpayers, in connection with an investment in hydrogen-powered vehicles and hydrogen vehicle fueling stations in the state, including, but not limited to, the costs of constructing, installing, and equipping such technologies in the state; seventy-five percent of all capital costs, operation and maintenance costs, and research and development costs incurred between July 1, 2006, and June 30, 2010, up to a limit of \$1.5 million per state fiscal year for all taxpayers, and limited to a maximum of \$12,000 per fuel cell, in connection with an investment in commercial stationary hydrogen fuel cells in the state, including, but not limited to, the costs of constructing, installing, and equipping such technologies in the state; seventy-five percent of all capital costs, operation and maintenance costs, and research and development costs incurred between July 1, 2006, and June 30, 2010, up to a limit of \$6.5 million per state fiscal year for all taxpayers, in connection with an investment in the production, storage, and distribution of biodiesel (B10-B100) and ethanol (E10-E100) in the state, including the costs of constructing, installing, and equipping such technologies in the state. Gasoline fueling station pump retrofits for ethanol (E10-E100) distribution qualify as an eligible cost under this subparagraph.
	Florida Renewable Energy Production Tax Credit	Incentive-based	Administered by the Department of Revenue, the Florida renewable energy production credit is intended to encourage the development and expansion of facilities in Florida that produce electricity from renewable energy.
	Ethanol Production Credit	Incentive-based	County governments are eligible to receive waste reduction credits for using yard clippings, clean wood waste, or paper waste as feedstocks for the production of clean-burning fuels such as ethanol. ¹²
	High Occupancy Vehicle (HOV) Lane Exemption	Incentive-based	Inherently Low Emission Vehicles (ILEVs) and hybrid electric vehicles that are certified and labeled in accordance with federal regulations may be driven in HOV lanes at any time, regardless of the number of passengers in the vehicle. The vehicle must have a decal issued by the Florida Division of Motor Vehicles, obtained for a \$5 fee, which must be renewed annually. ¹³
	Florida Renewable Energy Technologies Grants Program	Incentive-based	The Florida Energy Act established the Renewable Energy Technologies Grants Program to provide renewable energy matching grants for demonstration, commercialization, research and development projects relating to renewable energy technologies. The grant program is designed to stimulate capital investment in the state, and promote and enhance the statewide utilization of renewable energy technologies.
	JEA - Clean Power Program	Incentive-based	In November 1999, JEA signed a Memorandum of Understanding with the Sierra Club and the American Lung Association of Florida that details the municipal utility's commitment to generate at least 7.5% of its electric capacity from "clean and green energy sources" by 2015. Eligible renewable-energy resources include solar, biomass, biogas (methane from landfills and sewage treatment plants), and wind.
	Florida Farm-to-Fuel Initiative	Support programs	In 2006, this was created to enhance the market for and promote the production and distribution of renewable energy from Florida-grown crops, agricultural wastes and residues, and other biomass and to enhance the value of agriculture products or expand agribusiness. ¹⁴
	The Florida Renewable Energy Technologies and Energy Efficiency Act	Regulatory mechanism	Established to increase the state's energy stability and protect public health by advancing the development of efficient and renewable energy technologies, including those related to hydrogen, ethanol, and biodiesel. The Act creates the Florida Energy Commission, which is responsible for developing recommendations for legislation to establish a state energy policy, focusing on energy-efficiency issues including the encouragement of in-state research, development, and deployment of alternative fuels for motor vehicles. ¹⁵

	Net-metering	Regulatory mechanism	In March 2008, the Florida Public Service Commission (PSC) adopted rules for net metering and interconnection for renewable-energy systems up to two megawatts (MW) in capacity. The PSC rules apply only to the state's investor-owned utilities; the rules do not apply to electric cooperatives or municipal utilities. Some municipal utilities in Florida offer net metering voluntarily. ¹⁶
Georgia	Clean Energy Tax Credit (Corporate)	Incentive-based	<p>In May 2008, Georgia enacted legislation¹⁷ establishing personal and corporate tax credits for renewable energy equipment and certain energy-efficient equipment installed and placed into service. For renewable energy property used for any purpose other than single-family residential purposes, the tax credit is equal to 35% of the cost of the system (including installation), \$0.60/square foot for lighting retrofit projects, and \$1.80/square foot for energy-efficient products installed during construction. The credit is subject to various ceilings depending on the type of renewable-energy system or project. For biomass equipment, a maximum of \$500,000 per installation applies. A maximum of \$100,000 for energy-efficient products installed during construction also applies. Leased systems are eligible for the credit.</p> <p>Before claiming the credit, the taxpayer must submit an application to the Georgia tax commissioner for tentative approval, as the aggregate amount of tax credits taken — both personal and corporate credits — may not exceed \$2,500,000 in a given calendar year. Tax credits are granted on a first come, first serve basis and may not exceed the taxpayer's liability for that taxable year. Excess credit may be carried forward for five years from the close of the taxable year in which the installment of the clean energy property occurred. If the amount of credits exceeds the taxpayer's liability in a taxable year, the excess may be taken as a credit against the taxpayer's quarterly or monthly payment. This tax credit is in effect from July 1, 2008 until December 31, 2012.</p>
	Biomass Sales and Use Tax Exemption	Incentive-based	<p>Georgia enacted legislation in April 2006¹⁸ creating an exemption for biomass materials from the state's sales and use taxes. The term "biomass material" is defined as "organic matter, excluding fossil fuels, including agricultural crops, plants, trees, wood, wood wastes and residues, sawmill waste, sawdust, wood chips, bark chips, and forest thinning, harvesting, or clearing residues; wood waste from pellets or other wood demolition debris; peanut shells; pecan shells; cotton plants; corn stalks; and plant matter, including aquatic plants, grasses, stalks, vegetation, and residues, including hulls, shells, or cellulose containing fibers."</p> <p>To qualify for the exemption, biomass material must be utilized in the production of energy, including the production of electricity, steam, or both electricity and steam. Pellets and fuels derived from biomass are generally eligible.¹⁹</p>
	Alternative Fuel Vehicle Tax Credit	Incentive-based	An income tax credit is available for the purchase, lease, or conversion of a vehicle that operates solely on an alternative fuel and meets the U.S. Environmental Protection Agency (EPA) certification of a Low Emission Vehicle (LEV). The credit is worth up to 10% of the cost of a new AFV or up to 10% of the cost of converting the vehicle to operate on an alternative fuel, or \$2,500, whichever is less. The credit cannot exceed the taxpayer's income tax liability, but any portion of the credit not used in the year the AFV is purchased or converted can be carried over for up to five additional years. This incentive does not apply to hybrid electric vehicles. ²⁰
	Alternative Fuel Vehicle (AFV) High Occupancy Vehicle (HOV) Lane Exemption	Incentive-based	AFVs displaying the proper alternative fuel license plate are allowed to use HOV lanes, regardless of the number of passengers. ²¹
	Establishment of E85 Fueling Infrastructure Grant Program	Incentive-based	The Department of Community Affairs is required to establish a grant program for E85 infrastructure projects. The Georgia Environmental Facilities Authority administers the grant program. Grants of up to \$20,000, or 1/3 of the total planned project cost, will be made available for each approved project. Construction for any approved project must begin no later than six months after the date the grant is issued and must be completed within one year of receipt of the grant. Grants are only available for issue until July 1, 2009. ²²

	Biodiesel Study Committee	Regulatory mechanisms	This involves the creation of a State Senate Biodiesel Fuel Study Committee to study the conditions, needs, and issues associated with expanding biodiesel use and production in the state of Georgia. The Committee meets as often as necessary to carry out these duties and report their findings and recommendations, if any, on or before December 1, 2008. ²³
	Alternative Fuel Use and Alternative Fuel Vehicle (AFV) Acquisition Requirements (state vehicles)	Regulatory mechanisms	State agencies and departments are required to prioritize the procurement of high fuel efficiency and flexible fuel vehicles when such technologies are commercially available and economically practical. Additionally, all state-owned fueling facilities are required to maximize the purchasing of gasoline blended with ethanol, and diesel fuel blended with biodiesel, for use in state vehicles when available and economically practical. On December 15, 2006, the Governor's Energy Policy Council finalized the first Comprehensive State Energy Strategy, which offers a suggested approach toward a sustainable energy future for Georgia and includes implementation strategies related to alternative fuel production and use. ²⁴
Kentucky	Alternative Fuel Production Tax Incentive Refund	Incentive-based	In August 2007 Kentucky established the Kentucky Incentives for Energy Independence Act to promote the development of renewable energy and alternative fuel facilities, energy efficient buildings, alternative fuel vehicles, research & development activities and other energy initiatives. This provides a tax refund of up to 100% of the state sales tax paid on the purchase of personal property used to construct, retrofit, or upgrade an alternative fuel production or gasification facility. Additionally, the KEDFA provides a credit of up to 100% of the income tax and limited liability entity tax that would otherwise be owed by a company for an alternative fuel production or gasification facility that uses biomass as the primary feedstock. The incentives apply to property purchased on or after January 1, 2008, and expire upon the completion of the project, or five years from the date on which the company begins receiving the incentive, whichever is. Producers may recover up to 50% of their capital investment in tax incentives. The minimum capital investment for incentive eligibility is \$25 million for an alternative fuel or gasification facility that uses biomass as the primary feedstock. KEDFA may distribute the sales tax incentive before the minimum capital investment is made. It also includes a wage assessment of up to 4% for associated employees. A renewable energy facility is defined as one that generates at least 1 MW from biomass resources, landfill gas, or similar renewable resources. The electricity must be sold to an unrelated party. The minimum investment in any renewable energy facility must be \$1 million in capital expenditure which is defined to include various non-capital costs such as labor. ²⁵
	Alternative Fuel Production Tax Credit	Incentive-based	An income tax credit is available for biofuels producers of \$1.00 per gallon of pure biodiesel, corn-based ethanol, or cellulosic-based ethanol. The total amount of credit for all biodiesel producers may not exceed the annual biodiesel tax credit cap of \$1,500,000; beginning January 1, 2008, the biodiesel tax credit cap expands to \$5 million per taxable year. The total amount of credit for all corn and cellulosic ethanol producers is \$5 million for taxable years beginning January 1, 2008. Unused credits may not be carried forward and applied to a future tax return. However, unused ethanol credits from one ethanol-based cap (corn or cellulosic) may be applied to another ethanol-based cap in the same taxable year. For the purpose of this credit, biodiesel must meet American Society for Testing and Materials (ASTM) specification D6751, and ethanol must meet ASTM standard D4806. ²⁶
	Alternative Fuel Research and Development	Support programs	The Kentucky Alternative Fuel and Renewable Energy Fund Program provides funding to Kentucky-based companies for research, development, and commercialization of alternative fuels and renewable energy. The Program focuses on providing support to research and development projects that lead to innovative technology, new knowledge, commercially successful products or services, or show significant potential to stimulate economic development and employment growth in the state. Up to \$5 million may be awarded to eligible projects. ²⁷
	Alternative Fuel and Vehicle Promotion	Support programs	The Kentucky Division of Renewable Energy and Energy Efficiency provides information on a range of alternative fuels, demonstration projects, and promotes networks of people working with alternative fuels. It has implemented a number of projects to support alternative fuel vehicles and establish an alternative fuel refueling infrastructure.
	Financial Assistance to the Kentucky Clean Fuels Coalition	Support programs	The Office for Energy Policy financially assists the Kentucky Clean Fuels Coalition, http://www.kentuckycleanfuels.org/ , which is the state's main point of contact for educational and professional assistance.

	Net-Metering	Regulatory mechanism	In April 2008, Kentucky enacted legislation (SB 83) that expanded its net-metering law by requiring utilities to offer net metering to customers that generate electricity with biomass or biogas up to 30 kilowatts (kW) in capacity. Previous rules allowed net metering only for PV systems up to 10 kW. SB 83 requires the Kentucky Public Service Commission (PSC) to file rules within 180 days of the bill's passage. Within 90 days of the issuance of the PSC rules, utilities must file tariffs that include all terms and conditions of their net-metering programs, including interconnection. Net metering is available to all customers of investor-owned utilities and rural electric cooperatives, exempting TVA utilities. If the cumulative generating capacity of net-metered systems reaches 1.0% of a utility's single-hour peak load during the previous year, the PSC may limit the utility's obligation to offer net metering. When time-of-day or time-of-use metering is used, the electricity fed back to the grid by customers is net-metered and accounted for at the specific time it is fed back to the grid in accordance with the time-of-day or time-of-use billing agreement currently in place. Kentucky has not adopted interconnection standards for net-metered systems or larger distributed generation. ²⁸
	Vehicle Acquisition Priorities and Alternative Fuel Use Requirement	Regulatory mechanism	The Finance and Administration Cabinet is required to develop a strategy to replace at least 50% of state motor fleet light-duty vehicles with energy-efficient vehicles including hybrid-electric vehicles, fuel cell vehicles, and alternative fuel vehicles. The Finance and Administration Cabinet must also develop a strategy to increase the use of ethanol, biodiesel, and other alternative fuels in state motor fleet vehicles. The Cabinet must present its strategy to the state Legislative Research Commission by December 1, 2007, and report targeted vehicle and fuel usage amounts annually. ²⁹
	Biofuels Use	Regulatory mechanism	The Kentucky Transportation Cabinet and the Finance and Administration Cabinet is responsible for establishing procurement contracts which maximize market availability of ethanol (E10) and biodiesel (B2) blends. Additionally, employees using conventional vehicles in the Transportation Cabinet's fleet use either a 10% blend of ethanol (E10) or a 2% blend of biodiesel (B2) as their primary fueling option, and the Transportation Cabinet must maximize the use of E85 in its fleet of flexible fuel vehicles. The Transportation Cabinet also promotes clean fuels by educating employees about clean fuels, identifying vendors, and holding employees accountable for electing to use clean fuels in state vehicles. ³⁰
Louisiana	Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Tax Credit	Incentive-based	The state offers an income tax credit worth 20% of the cost of converting a vehicle to operate on an alternative fuel, 20% of the incremental cost of purchasing an Original Equipment Manufacturer (OEM) AFV or hybrid electric vehicle (HEV), and 20% of the cost of constructing an alternative fuel fueling station. For the purchase of an OEM AFV or HEV, the tax credit cannot exceed 2% of the total cost of the vehicle or \$1,500, whichever is less. Only vehicles registered in Louisiana can receive the tax credit. For the purpose of this incentive, alternative fuels include compressed natural gas, liquefied natural gas, liquefied petroleum gas, methanol, ethanol, electricity, and any other fuels which meet or exceed federal clean air standards.
	Biodiesel Equipment and Fuel Tax Exemption	Incentive-based	Certain property and equipment used to manufacture, produce, or extract unblended biodiesel, as well as unblended biodiesel used as fuel by a registered manufacturer, are exempt from state sales and use taxes. Unblended biodiesel is defined as B100 which meets the American Society of Testing and Materials (ASTM) standard D6751. These provisions are effective through June 30, 2012. ³¹
	Low-Speed Vehicle Support	Support programs	The Legislature of Louisiana supports the commercial introduction of low-speed vehicles into the state as an energy efficient and economically beneficial form of transportation. The Legislature has urged the Louisiana Office of Motor Vehicles to use the maximum authorized inspection period for low-speed vehicles and that all parishes and municipalities involved in the inspection of motor vehicles exempt low-speed vehicles from such inspection. ³²
	Alternative Fuel Promotion	Regulatory mechanism	The Legislature of Louisiana urges the state Department of Economic Development and the Department of Agriculture and Forestry to promote the use of alternative fuels and provide incentives for companies and consumers who use alternative fuels. ³³

Renewable Fuels Standard	Regulatory mechanism	<p>Within six months following the point at which cumulative monthly production of denatured ethanol produced in the state equals or exceeds an annual production volume of at least 50 million gallons, 2% of the total gasoline sold by volume in the state must be denatured ethanol produced from domestically grown feedstock or other biomass materials. Ethanol is defined as ethyl alcohol that has a purity of at least 99%, exclusive of added denaturants, meets U.S. Bureau of Alcohol, Tobacco, Firearms and Explosives and American Society for Testing and Materials (ASTM) D-4806 standards, and is produced from domestic agricultural or biomass products.</p> <p>This requirement will not be effective until six months after the average wholesale price of a gallon of Louisiana-manufactured ethanol, less any federal alcohol fuel mixture tax credit, is equal to or below the average wholesale price of a gallon of regular unleaded gasoline in Louisiana for a period of not less than 60 days, as determined by the Louisiana Biofuel Panel. Additionally, the Legislature urges the state Department of Agriculture and Forestry not to implement the minimum ethanol requirements if the requirements raise the price of gasoline by more than \$0.02 per gallon.</p> <p>Within six months following the point at which cumulative monthly production of biodiesel produced in the state equals or exceeds an annual production volume of 10 million gallons, 2% of the total diesel sold by volume in the state must be biodiesel produced from domestically grown feedstock. Biodiesel is defined as a fuel comprised of mono-alkyl esters of long chain fatty acids derived from renewable resources and meeting the requirements of ASTM D-6751, or a diesel fuel substitute produced from non-petroleum renewable resources such as vegetable oils and animal fats that meet U.S. Environmental Protection Agency fuel and fuel additive requirements.</p> <p>Alternatively, these requirements may be met through the production of an "alternate renewable fuel," defined as a liquid fuel that is domestically produced from renewable biomass, can be used in place of ethanol or biodiesel, and meets the definition of renewable fuel in the Energy Policy Act of 2005. However, these requirements may not exceed 2% of the total gasoline and 2% of the total diesel sold by volume by owners or operators of fuel distribution terminals.</p> <p>Blenders and retailers will have six months to meet the new minimum ethanol, biodiesel, or alternate renewable fuel content requirements, unless the state Department of Weights and Measures determines there is an insufficient supply of ethanol or biodiesel in the state. Any combination of alternative fuels, including but not limited to denatured ethanol, biodiesel, and alternative renewable fuel may be used to meet these requirements. Fuels containing ethanol or biodiesel will not be required to be sold in ozone non-attainment areas. The Commissioner of the Department of Agriculture and Forestry will adopt rules and regulations requiring incentives to compensate for any costs associated with achieving the minimum ethanol and biodiesel standards.³⁴</p>
Biofuels Feedstock Requirements	Regulatory mechanism	<p>Renewable fuel plants operating in Louisiana and deriving ethanol from the distillation of corn must use corn crops harvested in Louisiana for at least 20% of the facility's total feedstock. In succeeding years, the minimum percentage of Louisiana-harvested corn used to produce renewable fuel in Louisiana facilities must be at least the same percentage of corn used nationally to produce renewable fuel as reported by the U.S. Department of Agriculture's (USDA) Office of the Chief Economist.</p> <p>Renewable fuel plants operating in Louisiana and deriving biodiesel from soybeans and other crops must use soybean crops harvested in Louisiana for at least 2.5% of the facility's total feedstock. In succeeding years, the minimum percentage of Louisiana-harvested soybeans used to produce renewable fuel in Louisiana facilities must be the percentage of soybeans used nationally to produce renewable fuel as reported by the USDA Office of the Chief Economist.³⁵</p>
Net-metering	Regulatory mechanism	<p>In November 2005, the Louisiana Public Service Commission (PSC) issued rules for net metering and the interconnection of net-metered systems. Louisiana's rules, based largely on those in place in Arkansas, require publicly-owned utilities and rural electric cooperatives to offer net metering to customers with systems that generate electricity using solar, wind, hydro-power, geothermal or biomass resources. (Fuel cells and microturbines that generate electricity entirely derived from renewable resources are eligible.) The rules apply to residential facilities with a maximum capacity of 25 kilowatts (kW) and commercial systems with a maximum capacity of 100 kW.</p>

Mississippi	Biofuels Production Initiative	Incentive-based	Mississippi's Commissioner of Agriculture and Commerce is authorized to make direct payments to ethanol and biodiesel producers located in Mississippi. The amount of payment for each producer's annual production is \$0.20 per gallon, up to 30 million gallons per year per producer, for a period of up to 10 years following the start date of production. No payments will be made for production that occurs after June 30, 2015, and the maximum total annual payment to a single producer per fiscal year is \$6 million. ³⁶
	Energy Investment Loan Program	Incentive-based	Mississippi offers low-interest loans for renewable energy and energy efficiency projects. Eligible renewable energy, alternative fuels, biomass, landfill gas, among others. All projects must demonstrate that they will reduce a facility's energy costs. The interest rate is 3% below the prime rate, with a maximum loan term of seven years. Loans range from \$15,000 to \$300,000. The program is supported by a revolving loan fund of \$7 million, established through federal oil overcharge funds.
	Biodiesel Committee	Regulatory mechanism	A Study Committee on the Potential Use of Biodiesel Fuel was created in 2006 to study the need for mandated use of biodiesel and the agricultural and environmental benefits of biodiesel use. ³⁷
Missouri	Wood Energy Production Credit	Incentive-based	The Wood Energy Tax Credit, effective January 1, 1997, allows individuals or businesses processing Missouri forestry industry residues into fuels an income tax credit of \$5.00 per ton of processed material. Any amount of credit exceeding the tax due by a company in the year of production may be carried over to a subsequent taxable year, not to exceed four years. A credit earned under this program may also be transferred to third parties for use within this five-year period. To be considered an eligible fuel, forestry industry residues must have undergone some thermal, chemical or mechanical process(es) sufficient to alter the residues into a fuel product. ³⁸
	Energy Loan Program	Incentive-based	This loan program is administered by the Energy Center of the Missouri Department of Natural Resources, and is available for energy efficiency and renewable energy projects for public and governmental buildings and structures. Loan amounts are based on projected energy savings, resulting in monetary savings that is used to repay the loan. Financing is available at a fixed interest rate below the market rate, and repayment schedules are determined on an individual project basis. Loans under this program are determined on a competitive basis according to sector and payback period. Eligible technologies include biomass technology. Since the program's inception in 1989, loans totaling over \$80 million have been made to the applicable sectors, resulting in an estimated savings of \$105 million. ³⁹
	Ethanol Production Incentive	Incentive-based	Qualified ethanol producers are eligible for incentives through the Missouri Ethanol Producer Incentive Fund. The Fund provides \$0.20 per gallon for the first 12.5 million gallons and \$0.05 for the second 12.5 million gallons of ethanol produced from Missouri agricultural products each fiscal year. The Fund is administered by the Department of Agriculture and expires on December 31, 2015. ⁴⁰
	Biodiesel Production Incentive	Incentive-based	The Missouri Qualified Biodiesel Producer Incentive Fund provides a monthly grant to qualified Missouri biodiesel producers, provided that 1) at least 51% of the production facility is owned by agricultural producers who are residents of the state and who are actively engaged in agricultural production for commercial purposes or 2) at least 80% of the feedstock used by the facility originates in-state. All of the feedstock must originate in the U.S. However, the feedstock requirement may be waived on a month-to-month basis if the facility provides verification that adequate feedstock is not available. The value of the grant is \$0.30 per gallon for the first 15 million gallons produced in a fiscal year and \$0.10 per gallon for the next 15 million gallons produced in a fiscal year, up to a total of 30 million gallons and for 60 months maximum per producer. This fund is administered by the Missouri Department of Agriculture. Biodiesel is defined according to American Society for Testing and Materials (ASTM) Standard D-6751 or its subsequent standard specifications for biodiesel fuel (B100) blend stock for distillate fuels. This incentive expires December 31, 2009. ⁴¹
	Biodiesel Fuel Use Incentive	Incentive-based	Through the 2011-12 school year, school districts are allowed to establish contracts with nonprofit, farmer-owned new generation cooperatives to purchase biodiesel blends of 20% (B20) or higher for use as bus fuel. Every school district that contracts with an eligible new generation cooperative for biodiesel will receive an additional payment through its state transportation aid payment, to offset the incremental cost of purchasing the biodiesel. ⁴²

	Alternative Fuel Vehicle (AFV) Emission Inspection Exemption	Incentive-based	Vehicles that are powered exclusively by electric or hydrogen power, or by fuels other than gasoline which are exempt from motor vehicle emissions inspection under federal regulation, are exempt from state emissions inspection requirements. ⁴³
	Fuel Tax Exemption	Incentive-based	The \$0.17 per gallon motor fuel tax does not apply to passenger motor vehicles, certain buses, or commercial motor vehicles that are powered by an alternative fuel. Instead, the owners or operators of such vehicles are required to pay an annual alternative fuel decal fee. ⁴⁴
	Alternative Fuel Vehicle (AFV) Acquisition and Alternative Fuel Use Requirements	Regulatory mechanism	Effective January 1, 2008, at least 70% of new vehicles purchased for the state vehicle fleet must be flexible fuel vehicles that can operate on fuel blends of 85% ethanol (E85). Excess acquisitions of AFVs may be credited towards future biennial goals. If a state agency fails to meet a biennial acquisition goal, purchases of any non-AFVs are not permitted until the goals are met or an exemption or goal reduction has been granted. In addition, 30% of the fuel purchased annually for use in state fleet vehicles must be alternative fuels. ⁴⁵
	Alternative Fuels Promotion	Regulatory mechanism	The Missouri Ethanol and Other Renewable Fuel Sources Commission promotes the continued production and use of ethanol, ethanol blends, and other renewable fuel sources in Missouri. The commission reports annually to the general assembly its recommendations to the governor and general assembly on changes to state law to facilitate the sale and distribution of alternative fuels and alternative fuel vehicles; promotes the development, sale, distribution, and consumption of alternative fuels; promotes the development and use of alternative fuel vehicles and technology that will enhance the use of alternative and renewable transportation fuels; educates consumers about alternative fuels; and develops a long-range plan for the state to reduce consumption of petroleum fuels. ⁴⁶
	Biodiesel Use Requirement	Regulatory mechanism	The Missouri Department of Transportation (MoDOT) is required to develop a program that provides opportunities to use B20 or higher biodiesel blends in its vehicle fleet and heavy equipment that use diesel fuel. At least 75% of the MoDOT vehicle fleet and heavy equipment that uses diesel fuel must be fueled with B20 or higher biodiesel blends, if such fuel is commercially available. The blended biodiesel fuel will be presumed to be commercially available if the incremental cost of purchasing the fuel is not more than \$0.25 as compared to conventional diesel fuel. To the maximum extent practicable, MoDOT must obtain funding for the incremental cost of the blended biodiesel fuel from the Biodiesel Fuel Revolving Fund. ⁴⁷
	Ethanol Fuel Blend Requirement	Regulatory mechanism	The Missouri Renewable Fuel Standard requires that, after January 1, 2008, all gasoline sold or offered for sale at retail stations within the state must contain 10% ethanol. This requirement is waived only if a distributor is unable to purchase ethanol or ethanol-blended gasoline at the same or lower price as unblended gasoline. Premium gasoline is exempt from this requirement. Ethanol fuel is defined as meeting American Society for Testing and Materials (ASTM) Specification D-4806. ⁴⁸

<p>North Carolina</p>	<p>Renewable Energy Tax Credit (Corporate)</p>	<p>Incentive-based</p>	<p>In 1999 North Carolina’s various renewable-energy tax credits were revised and unified into a statute that addresses nearly all renewables. The revised statute provides for a tax credit of 35% of the cost of renewable energy property constructed, purchased or leased by a taxpayer and placed into service in North Carolina during the taxable year. These tax credits took effect January 1, 2000. In September 2005, the credits were extended for another five years.⁴⁹</p> <p>The credit is subject to various ceilings depending on sector and the type of renewable-energy system. The following credit limits for various technologies and sectors apply:</p> <p>A maximum of \$3,500 per dwelling unit for residential active space heating, combined active space and domestic water-heating systems, and passive space heating;</p> <p>A maximum of \$10,500 per installation for photovoltaic (solar-electric), wind, or other renewable-energy systems for residential use;</p> <p>A maximum of \$2,500,000 per installation for all solar, wind, hydro and biomass applications on commercial and industrial facilities, including photovoltaic (PV), daylighting, solar water-heating and space-heating technologies. Renewable-energy equipment expenditures eligible for the tax credit include the cost of the equipment and associated design; construction costs; and installation costs less any discounts, rebates, advertising, installation-assistance credits, name-referral allowances or other similar reductions.</p> <p>Under North Carolina’s tax code, the allowable credit may not exceed 50% of a taxpayer’s liability for the year, reduced by the sum of all other credits. Single-family homeowners who purchase and install a qualifying renewable-energy system must take the maximum credit amount allowable for the tax year in which the system is installed. If the credit is not used entirely during the first year, the remaining amount may be carried over for the next five years.</p> <p>For all other taxpayers, the credit is taken in five equal installments beginning with the year in which the property is placed in service. If the credit is not used entirely during these five years, the remaining amount may be carried over for the next five years. The credit can be taken against franchise tax, income tax or, if the taxpayer is an insurance company, against the gross premiums tax.</p> <p>SB 3 of 2007 amended North Carolina’s renewable energy tax credit statute to allow a taxpayer who donates money to a tax-exempt nonprofit to help fund a renewable energy project to claim a tax credit. The donor can claim a share of the credit -- proportional to the project costs donated — that the nonprofit could claim if the organization were subject to tax</p>
	<p>Local Option Green Building Incentive</p>	<p>Incentive-based</p>	<p>This incentive encourages sustainable building practices and North Carolina law allows counties and cities to provide reductions or partial rebates for building permit fees. To qualify for a fee reduction, buildings must meet guidelines established by the Leadership in Energy and Environmental Design (LEED) program, the Green Globes program, or another nationally recognized certification program.⁵⁰</p>

	GreenPower Production Incentive	Incentive-based	<p>NC GreenPower, a statewide green-power program designed to encourage the use of renewable energy in North Carolina, offers production payments for grid-tied electricity generated by biomass resources. Payment arrangements for electricity generated by most renewable-energy systems are available through a periodic request for proposals (RFP) process. Customer-generators who choose to net meter are not permitted to sell electricity under the NC GreenPower Program.</p> <p>Generators are required to enter into power-purchase agreements with their utility and with NC GreenPower. However, because premiums paid to NC GreenPower are funded exclusively by voluntary contributions from North Carolina electric customers, NC GreenPower does not provide guaranteed contracts to generators. Production incentives are based on the amount expected to make the installation of renewable-energy systems approach economic feasibility. The incentives, which include payments from utility power-purchase agreements, are made on a per-kWh basis and vary by technology.</p> <p>NC GreenPower is an independent, nonprofit organization created by state-government officials, electric utilities, nonprofit organizations, consumers, renewable-energy advocates and other stakeholders. It began operation in October 2003 as the first statewide green-power program in the United States. North Carolina's three investor-owned utilities — Progress Energy, Duke Energy and Dominion North Carolina Power — and many of the state's municipal utilities and electric cooperatives are participating in the NC GreenPower Program.⁵¹</p>
	Energy Improvement Loan Program (EILP)	Incentive-based	<p>North Carolina's Energy Improvement Loan Program (EILP) is available to businesses, local governments, public schools, community colleges, and nonprofit organizations for projects that include energy efficiency improvements and renewable energy systems. Loans with an interest rate of 1% are available for certain renewable-energy and energy-recycling projects. Eligible renewable-energy projects include biomass projects. Loans with a rate of 3% are available for projects that demonstrate energy efficiency, energy cost savings or reduced energy demand. Energy conservation projects usually include improvements to HVAC systems, energy management controls, high efficiency lighting and building envelope improvements. Loans are secured by bank letter-of-credit (non-applicable for local governments and school systems).</p> <p>In order to qualify for the EILP, a project must (1) be located in North Carolina; (2) demonstrate energy efficiency, use of renewable-energy resources, energy cost savings or reduced energy demand; (3) use existing, reliable, commercially-available technologies; (4) meet federal and state air and water-quality standards; and (5) be able to recover capital costs within the loan's maximum term of 10 years through energy cost savings. Note that letter-of-credit fees do not apply to government agencies and public schools.⁵²</p>
	Biodiesel Production Tax Credit	Incentive-based	<p>A biodiesel provider that produces at least 100,000 gallons of biodiesel during the taxable year is allowed a credit equal to the per gallon excise tax the producer paid in accordance with the motor fuel excise tax rate. The credit does not apply to tax paid on the diesel portion of the biodiesel blends and the credit may not exceed \$500,000. This credit is effective for taxable years beginning on January 1, 2008, and is in effect until January 1, 2010.</p>
	Alternative Fuel Production Tax Credit	Incentive-based	<p>A tax credit is available for the processing of biodiesel, 100% ethanol, or ethanol/gasoline blends consisting of at least 70% ethanol. The credit is equal to 25% of the cost of constructing and equipping the facility and a facility must be placed in service before January 1, 2011. The credit must be taken in seven equal annual installments beginning with the taxable year in which the facility is placed in service. In lieu of the above credit, a taxpayer that constructs and places into service, in North Carolina, three or more commercial facilities for processing renewable fuel and invests a total amount of at least \$400,000,000 in the facilities is allowed a credit equal to 35% of the cost to the taxpayer of constructing and equipping the facilities. To claim the credit, the taxpayer must obtain a written determination from the Secretary of Commerce that the taxpayer is expected to invest at least \$400,000,000 in three or more facilities within a five-year period. Facilities must be placed in service before January 1, 2011.⁵³</p>
	Bond Exemption for Small Biofuels Producers	Incentive-based	<p>A bond filed with the Secretary of Revenue is not required for fuel blenders or suppliers of ethanol or biodiesel when the expected motor fuel tax liability is less than \$2,000.⁵⁴</p>

	Alternative Fuel Fueling Infrastructure Tax Credit	Incentive-based	A tax credit is available for qualified fueling facilities that dispense biodiesel, 100% ethanol, or ethanol/gasoline blends consisting of at least 70% ethanol. The credit is equal to 15% of the cost of construction and installation of the dispensing facility, including pumps, storage tanks, and related equipment, that is directly and exclusively used for dispensing or storing the fuel. The credit must be taken in three equal annual installments beginning with the taxable year in which the facility is placed into service. Facilities must be placed in service before January 1, 2011. ⁵⁵
	Alternative Fuel Tax Exemption	Incentive-based	The retail sale, use, storage or consumption of alternative fuels is exempt from the state retail sales and use tax. ⁵⁶
	North Carolina Green Business Fund	Support programs	<p>The North Carolina Green Business Fund, created in 2007, provides funding to North Carolina organizations to encourage the development and commercialization of “promising” renewable energy and green building technologies. Grants of up to \$100,000 are available for the development of commercial innovations and applications in the biofuels industry, sustainable building practices and private sector investment in renewable energy technologies. North Carolina-based businesses and nonprofits with fewer than 100 employees, as well as state and local governmental entities, are generally eligible.</p> <p>Grants in the green building sector may be awarded for innovation in areas of installation, certification or distribution of green building materials; energy audits; workforce development; and marketing and sales. For private sector investment in clean technologies, grants may target renewable energy deployment, biomass energy projects, waste reclamation for energy, implementation of energy efficiency technologies and clean distributed generation infrastructure improvements. Grants are also available for the development, production and distribution of biofuels in North Carolina.⁵⁷</p>
	Alternative Fuel Vehicle (AFV) and Hybrid Electric Vehicle (HEV) Grants	Support programs	Clean Fuel Advanced Technology (CFAT) is a three-year project focused on reducing transportation related emissions in North Carolina’s non-attainment and maintenance counties for National Ambient Air Quality Standards. Projects that are adjacent to areas may also be eligible if emissions will be reduced in the eligible counties. The \$2 million project is funded by the North Carolina Department of Transportation, State Energy Office, and the Division of Air Quality, and covers three broad areas: education and outreach; project funding; and recognition of exemplary activities. Funding for up to 80% of project costs is available for AFVs, fueling infrastructure, idle reduction technologies, heavy-duty HEVs, heavy-duty buses, and diesel retrofits.

	Net-metering	Regulatory mechanism	<p>In October 2005, the North Carolina Utilities Commission (NCUC) adopted an order requiring the state’s three investor-owned utilities — Progress Energy, Duke Energy and Dominion North Carolina Power — to make net metering available to customers that own and operate systems that generate electricity using biomass resources. Systems must be interconnected and operated in parallel with the utility’s distribution system. (The NCUC adopted interconnection standards in March 2005.)</p> <p>The maximum capacity of net-metered residential systems is 20 kilowatts (kW); the maximum capacity of net-metered nonresidential systems is 100 kW. Net metering is available on a first-come, first-serve basis in conjunction with the utility’s interconnection standards, up to an aggregate limit of 0.2% of the utility’s North Carolina jurisdictional retail peak load for the previous year. Customers are required to switch to a time-of-use tariff in order to net meter. These tariffs could involve additional charges that do not apply to customers not taking service under a time-of-use tariff. In general, utilities charge monthly fees for all interconnected systems (including small renewable-energy systems). The NCUC’s July 2006 order extended net-metering to eligible renewable-energy systems with battery storage. Previously, system owners with battery storage were not allowed to net-meter. (The NCUC noted that “gaming” a net-metering arrangement by using battery storage to manipulate a time-of-use tariff is not allowed.)</p> <p>In its July 2006 order, the NCUC clarified that net-metered customers’ on-peak generation (under the time-of-use tariff) may be used to offset off-peak consumption, but not vice versa. Previously, the utilities’ net-metering tariffs and riders only allowed excess on-peak production to be used to reduce on-peak consumption and excess off-peak production to be used to offset off-peak production.</p> <p>Net excess generation (NEG) is credited to the customer’s next bill at the utility’s retail rate, and then granted to the utility (annually) at the beginning of each summer season. Any renewable-energy credits (RECs) associated with NEG are granted to the utility when the NEG balance is zeroed out. This provision is designed to limit the size of individual facilities to match on-site power needs, according to the NCUC. Significantly, customer-generators who choose to net-meter are not permitted to sell electricity under the NC GreenPower Program.</p> <p>Utilities must file with the NCUC annual reports indicating the number of net-metering applicants and customer-generators, the aggregate capacity of net-metered generation, the size and types of renewable-energy systems, the amounts of on-peak and off-peak generation credited and ultimately granted to the utility, and the reasons for any rejections or removals of customer-generators from a net-metering arrangement.⁵⁸</p>
--	--------------	----------------------	---

	Renewable Energy and Energy Efficiency Portfolio Standard	Regulatory mechanism	<p>North Carolina's Renewable Energy and Energy Efficiency Portfolio Standard (REPS), enacted by Senate Bill 3 in August 2007, requires all investor-owned utilities in the state to supply 12.5% of 2020 retail electricity sales (in North Carolina) from eligible energy resources by 2021. Municipal utilities and electric cooperatives must meet a target of 10% renewables by 2018 and are subject to slightly different rules. In February 2008, the North Carolina Utilities Commission (NCUC) adopted final rules implementing the REPS.</p> <p>Eligible energy resources include biomass generation projects which use Best Available Control Technology (BACT) for air emissions, landfill gas, waste heat from renewables, and hydrogen derived from renewables. (The NCUC decided not to expand the definition of biomass specified in N.C. Gen. Stat. § 62-133.8(a)(8): "agricultural waste, animal waste, wood waste, spent pulping liquors, combustible residues, combustible liquids, combustible gases, energy crops, or landfill methane; or waste heat derived from a renewable energy resource." Further determination of what constitutes a qualifying biomass resource may be made on a case-by-case basis). Up to 25% of the requirements may be met through energy efficiency technologies, including combined heat-and-power (CHP) systems powered by non-renewable fuels. After 2018, up to 40% of the standard may be met through energy efficiency.</p> <p>The overall target for renewable energy is 0.2% energy recovery from swine waste by 2018, and 900,000 megawatt-hours (MWh) of electricity derived from poultry waste by 2014. The NCUC has required that each electric power supplier submit its first annual REPS compliance plan by September 1, 2008. Beginning in 2009, each power supplier will be required to file a compliance report, detailing the actions it has taken to fulfill the requirements of the REPS. The compliance schedule for investor-owned utilities appears below. Note that each year's percentage requirement refers to the previous year's electricity sales (i.e. the 2021 goal is 12.5% of 2020 retail sales).</p> <p>Electric cooperatives and municipal utilities must meet the swine waste and poultry waste goals, but these utilities only must meet an overall target of 10% by 2018. Unlike investor-owned utilities, cooperatives and municipal utilities are permitted to use demand side management (in addition to energy efficiency) to satisfy up to 25% of the standard, and may also use large hydropower to meet up to 30% of the standard.</p> <p>Utilities may recover the incremental cost of renewable resources and up to \$1 million in alternative energy research expenditures annually from customers. The cost per customer account is capped according to a set schedule.⁵⁹</p>
	Ethanol Fueling Infrastructure Requirement	Regulatory mechanism	<p>Ethanol blends between 10% (E10) and 85% (E85) for use in motor vehicles may be dispensed from equipment that fully complies with all requirements for dispensing E10, provided that the following conditions are met: 1) The dispensing equipment manufacturer has documented that the equipment is compatible with all ethanol blends; 2) the manufacturer has initiated the process of applying to an independent testing laboratory to have the equipment listed for use in dispensing ethanol blends; and 3) the equipment clearly discloses the particular ethanol blend that is being dispensed.⁶⁰</p>
	Biodiesel Requirement for School Buses	Regulatory mechanism	<p>Every school bus that is capable of operating on diesel fuel must be capable of operating on diesel fuel with a minimum content of 20% biodiesel (B20). Furthermore, at least 2% of the total volume of fuel purchased annually by local school districts statewide for use in diesel school buses must be a minimum of B20, to the extent that biodiesel blends are available and compatible with the technology of the vehicles and the equipment used.⁶¹</p>
	Alternative Fuel Use and Fuel Efficient Vehicle Requirements	Regulatory mechanism	<p>State-owned vehicle fleets with more than 10 motor vehicles designed for highway use must establish plans to improve the use of alternative fuels and fuel-efficient vehicles. The plans must enable the state-owned fleets to achieve a 20% reduction or displacement of the current petroleum products consumed by January 1, 2010. Reductions may be met by petroleum or oils displaced through the use of biodiesel, ethanol, synthetic oils or lubricants, other alternative fuels, the use of hybrid electric vehicles, other fuel-efficient or low-emission vehicles, or additional methods as may be approved by the State Energy Office.⁶²</p>

Oklahoma	Community Energy Education Management Program	Incentive-based	The Oklahoma Department of Commerce offers a revolving loan fund for local governments to make energy efficient improvements to government buildings. All eligible projects should increase energy efficiency, reduce energy consumption, project a positive return on investment and be paid back within six years of the loan award. Funds from this program can be used to pay for a technical assistance report/audit, energy conservation measures, and operation and maintenance procedures that would contribute to overall reduced energy consumption. Generally, the loans will not be more than \$150,000, and the average loan amount is around \$60,000. An eligible local government may have only one active loan open at any time.
	Biofuels Tax Exemption	Incentive-based	Biofuels or biodiesel produced by an individual with feedstocks grown on property owned by the same individual and used in a vehicle owned by the same individual on public roads and highways are exempt from the state motor fuel excise tax. ⁶³
	Alternative Fuel Vehicle (AFV) Tax Credit	Incentive-based	Until January 1, 2010, Oklahoma provides a one-time income tax credit for 50% of the cost of converting a vehicle to operate on an alternative fuel, or for 50% of the incremental cost of purchasing a new Original Equipment Manufacturer AFV. The state also provides a tax credit for 10% of the total vehicle cost, up to \$1,500, if the incremental cost of a new AFV cannot be determined or when an AFV is resold, as long as a tax credit has not been previously taken on the vehicle. The alternative fuels eligible for the credit are compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), methanol, and electricity. For qualified electric vehicle property propelled by electricity only, the basis for the credit is the full purchase price of the vehicle. For vehicles also equipped with an internal combustion engine, such as a hybrid electric vehicle, the basis for the credit is limited to the portion of such motor vehicle which is attributable to the propulsion of the vehicle by electricity. ⁶⁴
	Alternative Fueling Infrastructure Tax Credit	Incentive-based	The state provides a tax credit for up to 50% of the cost of installing alternative fueling infrastructure. These tax credits may be carried forward for up to three years and expire January 1, 2010. The alternative fuels eligible for the credit include compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), methanol, and electricity. ⁶⁵
	Biodiesel Production Tax Credit	Incentive-based	For tax years beginning after December 31, 2004, and before January 1, 2013, a biodiesel (B100) production facility is allowed a credit of \$0.20 per gallon of biodiesel produced. An eligible biodiesel facility must produce at least 25% of its nameplate design capacity for at least six months after the first month for which it is eligible to receive the credit, on or before December 31, 2008. The credit is allowed for 60 months beginning with the first month for which the facility is eligible to receive the credit and ending not later than December 31, 2012. An eligible facility may also receive a credit of \$0.20 per gallon for biodiesel produced in excess of the original nameplate design capacity which results from expansion of the facility completed on or after the effective date of this act and before December 31, 2008. Beginning January 1, 2013, a biodiesel facility may receive a credit of \$0.075 per gallon of biodiesel, for new production for a period not to exceed 36 consecutive months. Additional restrictions apply. ⁶⁶
	Ethanol Production Tax Credit	Incentive-based	For tax years beginning after December 31, 2003, and before January 1, 2013, an ethanol production facility is allowed a tax credit in the amount of \$0.20 per gallon of ethanol produced, for 60 months beginning with the first month for which the facility is eligible to receive such credit. The credit may only be claimed if the ethanol facility maintains an average production rate of at least 25% of its nameplate design capacity for at least six months after the first month for which it is eligible to receive the credit, on or before December 31, 2010. Producers are also eligible for an expansion credit of \$0.20 per gallon of ethanol produced in excess of the original nameplate capacity that results from expansion of the facility before December 31, 2008. Beginning January 1, 2013, an ethanol facility is eligible for a credit of \$0.075 per gallon of ethanol, before denaturing, for new production for a period not to exceed 36 consecutive months. ⁶⁷
	Ethanol Fuel Retailer Tax Credit	Incentive-based	A retailer of ethanol-blended fuel (blended gasoline consisting of not more than 15% ethyl alcohol by volume) may claim a motor fuel tax credit of \$0.016 for each gallon of ethanol fuel sold in Oklahoma, if the retailer provides a price reduction to the purchaser of the ethanol fuel in the same amount. This incentive is effective unless the federal government mandates the use of reformulated fuel in an area within the State of Oklahoma that is in non-attainment with the National Ambient Air Quality Standards. ⁶⁸

	Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Loans	Incentive-based	The Department of Central Services has an Alternative Fuels Loan program to help convert government-owned fleets to operate on alternative fuels. This program provides 0% interest loans for converting vehicles to operate on an alternative fuel, for the construction of fueling infrastructure, and for the incremental cost associated with the purchase of an Original Equipment Manufacturer AFV. The program provides up to \$10,000 per converted or newly purchased vehicle and up to \$150,000 for fueling infrastructure. Repayment is made from fuel savings during a maximum seven-year period. If the price of alternative fuels does not remain below the price of the conventional fuel that was replaced, repayment is suspended. Eligible applicants include state and county agencies and divisions, municipalities, school districts, mass transit authorities, and public trust authorities. ⁶⁹
	Alternative Fuel Vehicle (AFV) Loans	Incentive-based	Oklahoma has a private loan program with a 3% interest rate for the cost of converting private fleets to operate on alternative fuels, for the incremental cost of purchasing an Original Equipment Manufacturer AFV, and for the installation of AFV refueling infrastructure. The repayment of the loan is made from fuel savings during a maximum three-year period.
	Alternative Fuel Vehicle (AFV) Technician Training	Support programs	The Alternative Fuels Technician Certification Act regulates the training, testing, and certification of technicians who install, modify, repair, or renovate equipment used in the fueling of AFVs and the conversion of any engine to an alternative fueled engine. This includes Original Equipment Manufacturer engines dedicated to operate on an alternative fuel. Electric vehicles (EVs), electric charging stations, and EV technicians must also comply with the rules and regulations of this Act. ⁷⁰
	Net-metering	Regulatory mechanism	<p>Net metering has been available in Oklahoma since 1988 under Oklahoma Corporation Commission (OCC) Order 326195. The OCC's rules require investor-owned utilities and electric cooperatives under the commission's jurisdiction to file net-metering tariffs for customer-owned renewable-energy systems and combined-heat-and-power (CHP) facilities up to 100 kilowatts (kW) in capacity. Net metering is available to all customer classes. There is no limit on the amount of aggregate net-metered capacity.</p> <p>Utilities are not allowed to impose extra charges for customers signed up for net metering, nor are they allowed to require new liability insurance as a condition for interconnection. Utilities are also not required to purchase net excess generation (NEG) from customers. However, a customer may request that the utility purchase NEG. If the utility agrees, then NEG will be purchased at the utility's avoided-cost rate.⁷¹</p>
	Biofuels Development and Promotion	Regulatory mechanism	The Oklahoma Biofuels Development Act was created to encourage the processing, market development, promotion, distribution, and research of fuels derived from grain, ethanol or ethanol components, biodiesel, bio-based lubricants, co-products, or by-products. The Oklahoma Biofuels Development Advisory Committee will serve until June 1, 2010, to conduct a systematic review and study of the ethanol and biodiesel industry in Oklahoma and other states, study the feasibility of developing and enhancing the ethanol and biodiesel industry in Oklahoma, and otherwise encourage market development, promotion, distribution, and research on products derived from grain, ethanol or ethanol components, bio-based products, co-products, or by-products. ⁷²
	Alternative Fuel Vehicle (AFV) Acquisition Requirements	Regulatory mechanism	Under the Alternative Fuels Conversion Act, all school and government vehicles may be converted to operate on an alternative fuel, and all school districts should consider only purchasing school vehicles which have the capability to operate on an alternative fuel. The Act also requires all school and government vehicles capable of operating on an alternative fuel to use the fuel whenever a refueling station is in operation within a five-mile radius of the respective department or district and the price of the alternative fuel is cost competitive. If school and government vehicles must be refueled outside the five-mile radius and no refueling station is reasonably available, the school and government vehicles are exempt from this requirement. ⁷³
	Neighborhood Electric Vehicle (NEV) Access to Roadways	Regulatory mechanism	NEVs manufactured in compliance with the National Highway Traffic Safety Administration standards for low-speed vehicles in Title 49 of the Code of Federal Regulations, section 571.500, are allowed to operate on Oklahoma streets and highways with a posted speed limit of 35 miles per hour or less. ⁷⁴

	Alternative Fuel Labeling Requirement	Regulatory mechanism	In lieu of the motor fuel excise tax, Oklahoma imposes an annual flat fee on motor vehicles including passenger automobiles, pickup trucks, vans and heavy-duty vehicles using liquefied petroleum gas, compressed natural gas (CNG), liquefied natural gas (LNG), methanol, or blends of 85% methanol and 15% gasoline (M85). CNG, LNG, methanol, and M85 vehicles weighing less than one ton gross vehicle weight are taxed at a rate of \$100 per vehicle per year, and vehicles weighing more than one ton gross vehicle weight are taxed at a rate of \$150 per vehicle per year. Vehicles must display a decal issued on a yearly basis by the Oklahoma Tax Commission. ⁷⁵
South Carolina	Biofuels Retail Incentive	Incentive-based	Beginning July 1, 2009, a \$0.05 incentive payment is available to E85 retailers for each gallon of E85 fuel sold, provided that the E85 fuel is subject to the South Carolina motor fuel tax. Additionally, a \$0.25 incentive payment is available to biodiesel retailers for each gallon of pure biodiesel (B100) sold, provided that the resulting blends contain at least 2% biodiesel (B2). These incentives apply only to fuel sold before July 1, 2012. Biodiesel fuel is defined as a fuel for motor vehicle diesel engines comprised of vegetable oils or animal fats and meeting the specifications of American Society of Testing and Materials (ASTM) D 5761. ⁷⁶
	Alternative Fuel Vehicle (AFV) Sales Tax Rebate	Incentive-based	Beginning July 1, 2008, a \$300 sales tax rebate may be applied to in-state purchases of the following: flexible fuel vehicles (FFVs) capable of operating on E85 motor fuel; hydrogen fuel cell vehicles; electric vehicles, hybrid electric vehicles; plug-in hybrid electric vehicles (PHEVs); and vehicles with a U.S. Environmental Protection Agency city fuel economy rating of at least 30 miles per gallon. Additionally, a sales tax rebate up to \$500 has been established for the purchase of equipment that results in the conversion of a conventional hybrid electric vehicle to a PHEV, or for equipment to convert a conventional vehicle to operate on propane, compressed natural gas, liquefied natural gas, hydrogen, or E85. These rebates only apply to vehicles and equipment purchased prior to July 1, 2013. ⁷⁷
	Biofuels Production Tax Credit	Incentive-based	A tax credit is available to qualified ethanol and biodiesel producers for taxable years beginning after 2006 and before 2014. Corn-based ethanol and soy-based biodiesel producers are eligible for a tax credit of \$0.20 per gallon of fuel produced. Producers using feedstocks other than corn or soy oil are eligible for \$0.30 per gallon tax credit. An eligible production facility must be operating at a production rate of at least 25% of its name plate design capacity, before denaturing, on or before December 31, 2009. The credit is allowed for 60 months beginning with the first month for which the facility is eligible to receive the credit and ending not later than December 31, 2014. The credit may only be claimed if the facility maintains an average production rate of at least 25% of its name plate design capacity for at least six months after the first month for which it is eligible to receive the credit. ⁷⁸
	Biofuels Research and Development Tax Credit	Incentive-based	For taxable years after 2007 and before 2012, an income tax credit is available for up to 25% of qualified research and development expenditures, which include developing feedstocks and production processes for cellulosic ethanol and algae-derived biodiesel. Cellulosic ethanol is defined as fuel from lignocellulosic materials, including wood chips, corn stover, and switchgrass. ⁷⁹
	Biofuels Distribution Infrastructure Tax Credit	Incentive-based	Effective January 1, 2008, a taxpayer that constructs, installs, and places into service a qualified commercial facility for distribution or dispensing of renewable fuels in the state is eligible for a tax credit of up to 25% of the construction and installation costs. Eligible property includes pumps, storage tanks, and related equipment used exclusively for distribution, dispensing, and storing renewable fuel. A qualified facility must clearly label the equipment used to store or dispense the fuel as associated with renewable fuel. The credit must be taken in three equal annual installments beginning with the taxable year in which the facility is placed into service. Renewable fuel is defined as ethanol fuel blends of 70% or greater (E70) dispensed at the retail level for use in motor vehicles, and pure ethanol or biodiesel fuel dispensed by a distributor or facility that blends these non-petroleum liquids with gasoline fuel or diesel fuel for use in motor vehicles. ⁸⁰

	Biofuels Production Facility Tax Credit	Incentive-based	Effective January 1, 2008, a taxpayer that constructs and places into service a commercial facility for the production of renewable fuel is eligible for a tax credit of up to 25% of the cost of constructing or renovating a building and equipping the facility. Production of renewable fuel includes intermediate steps such as milling, crushing, and handling feedstock and the distillation and manufacturing of the final product. The entire credit must be taken in seven equal annual installments beginning with the taxable year in which the facility is placed in service. Renewable fuel is defined as liquid non-petroleum based fuel that can be placed in motor vehicle fuel tanks and used to operate on-road vehicles, including all forms of fuel commonly or commercially known or sold as biodiesel and ethanol. ⁸¹
	Renewable Energy Grant Program	Incentive-based	The South Carolina Renewable Energy Grant Program provides grants to private and public entities located in South Carolina to assist those involved in renewable energy-related research and projects to become more competitive in obtaining federal and other grants. Matching grants up to \$200,000 are available for demonstration projects that validate the effectiveness of new and future biomass technologies and products, provided that the grant does not exceed 50% of the total cost of the demonstration project. The South Carolina Department of Agriculture administers the grant program, in cooperation with the South Carolina Institute of Energy Studies and the South Carolina Research Authority. Disbursement of these funds must be approved by the South Carolina Renewable Energy Oversight Committee. Grants are also available for project planning, and research and development projects. ⁸²
	Renewable Energy Revolving Loan Program	Incentive-based	The Renewable Energy Revolving Loan Program provides low-interest loans to an individual or organization that plans to build a qualified renewable energy production facility. For the purposes of this loan, a renewable energy production facility is a facility that produces energy or transportation fuels from biomass, solar or wind resources. This loan may provide up to 50% of the total cost of a project, but may not exceed \$250,000 for each project. The South Carolina Department of Agriculture administers the loan program, in cooperation with the South Carolina Institute of Energy Studies. Disbursement of funds must be approved by the South Carolina Renewable Energy Oversight Committee. The interest rate for qualifying loans will not exceed the <i>Wall Street Journal</i> prime interest rate. ⁸³
	Biodiesel Blend Infrastructure Mandate	Regulatory mechanism	No later than January 1, 2008, all state-owned diesel refueling facilities must provide fuel containing at least 5% biodiesel (B5) in all diesel pumps. ⁸⁴
	Biodiesel Use in School Buses	Regulatory mechanism	The South Carolina Department of Education is required to fuel the state school bus fleet with biodiesel when feasible. ⁸⁵
	Low-Speed Vehicle Access to Roadways	Regulatory mechanism	A low-speed vehicle is defined as a four-wheeled motor vehicle, other than an all terrain vehicle, capable of reaching speeds greater than 20 miles per hour (mph) but not more than 25 mph. A low-speed vehicle may operate only on secondary highways with a posted speed limit of 35 miles per hour or less. A low-speed vehicle must be registered and licensed in the same fashion as a passenger vehicle and is subject to the same insurance requirements applicable to other motor vehicles. Homemade low-speed vehicles, retrofitted golf carts, or any other similar vehicles do not qualify as low-speed vehicles. ⁸⁶
	Alternative Fuel Use Requirement	Regulatory mechanism	Whenever practical and economically feasible, all state agencies operating alternative fuel vehicles are required to use alternative fuels in those vehicles. Private businesses are encouraged to increase the use of alternative fuels in the state. ⁸⁷
	Alternative Fuel Tax	Regulatory mechanism	All fuels, including alternative fuels and alternative fuel blends, are exempt from the state sales and use tax. However, all fuels are subject to a state fuels tax. Alternative fuels include liquefied petroleum gas and compressed natural gas. Blended fuels are defined as mixtures composed of gasoline or diesel fuel and another liquid, other than products such as carburetor detergent or oxidation inhibitor, which can be used as a fuel to operate a highway vehicle. ⁸⁸

	Interconnection Standards	Regulatory mechanism	<p>The South Carolina Public Service Commission (PSC) adopted a simplified interconnection standard for small distributed generation (DG) in December 2006. The standard addresses renewable-energy systems and other forms of DG up to 20 kilowatts (kW) in capacity for residential systems, and up to 100 kW in capacity for non-residential systems. Notably, the standard does not include provisions for three-phase generators. South Carolina's model interconnection standard, which is identical to North Carolina's model interconnection standard, applies to the state's four investor-owned utilities — Progress Energy, Duke Energy, South Carolina Electric and Gas, and Lockhart Power.</p> <p>There is a \$100 application fee for residential systems and a \$250 application fee for non-residential systems. Utilities may not require residential customers to carry liability insurance beyond the amount required by a standard homeowner's policy (\$100,000 minimum coverage), but non-residential generators are required to carry comprehensive general liability insurance (\$300,000 minimum coverage). Generators are responsible only for upgrade and improvement costs associated directly with a system's interconnection, but these costs may be determined by utilities. Utilities are prohibited from imposing indirect fees and charges. The standard includes a mutual-indemnification requirement.</p> <p>A redundant external disconnect switch is required, and the capacity of all interconnected generation is limited to a maximum of 2% of rated circuit capacity. Applications for interconnected systems that exceed this saturation limit may be reviewed on a case-by-case basis. Utilities must file semi-annual reports with the PSC detailing the number of interconnection requests approved and denied, and the reasons for any denial. There are no dispute-resolution procedures.⁸⁹</p>
Tennessee	Biodiesel Infrastructure Grants	Incentive-based	<p>The Tennessee State Energy Office, Department of Economic and Community Development, Energy Division offers grants to county governments for the installation of biodiesel infrastructure, including biodiesel tanks, pumps, and card readers, that can be used to provide biodiesel fuel for county/city owned vehicles including school buses, maintenance vehicles, heavy equipment, or any other vehicle currently powered by diesel fuel. Grant funding will be provided for 50% of total project costs, but not more than \$12,000 may be awarded per individual grant. Grants are limited to one per county and are available through June 2010.</p>
	Provision for Establishing Alternative Fuel Refueling Infrastructure Grants	Incentive-based	<p>The Tennessee Department of Transportation (TDOT) is authorized to undertake public-private partnerships with transportation fuel providers, including, but not limited to, farmer cooperatives, to install refueling facilities. Refueling facilities include storage tanks and fuel pumps dedicated to dispensing biofuels, including, but not limited to, ethanol (E85) and biodiesel (B20). TDOT is also authorized to establish a grant program to provide financial assistance to help pay the capital costs of purchasing, preparing, and installing fuel storage tanks and fuel pumps for biofuels at private sector fuel stations. TDOT may also develop and implement a program to encourage all political subdivisions of the state and public colleges and universities to increase the number of vehicles that use alternative fuels.⁹⁰</p>
	Provision for Establishing an Alternative Fuel Research and Development Program	Incentive-based	<p>The Department of Agriculture is authorized to develop and implement an alternative fuel research program to stimulate public and private research in conversion technology. This research should address converting Tennessee agricultural products, such as soybeans, switchgrass, and other biomass, into alternative fuels, as well as the production capabilities needed to deliver such alternative fuels to Tennessee consumers.⁹¹</p>
	Provision for Establishing a Biodiesel Incentive	Incentive-based	<p>The Department of Revenue, in consultation with the Department of Economic and Community Development, is authorized to create the Tennessee biodiesel manufacturers' incentive fund, dependent on legislative appropriations. Each eligible manufacturer may receive incentives from the fund for producing up to 10 million gallons of biodiesel annually. Biodiesel is defined as mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats that meet the registration requirements for fuels and fuel additives established by the U.S. Environmental Protection Agency and conform to American Society for Testing and Materials (ASTM) D6751 specifications.⁹²</p>

	Small Business Energy Loan Program	Incentive-based	The Tennessee Energy Division offers low-interest loans of up to \$300,000, with terms of up to 7 years, for energy efficiency projects and other projects shown to save energy or decrease energy demand. Businesses with fewer than 300 employees or less than \$3.5 million in annual gross sales or receipts are eligible. The loan is offered with a 0% interest rate for businesses in the Three-Star and Main Street communities, and at a 3% interest rate for all others. Loans cannot be used for new construction or business start-up. All renewable energy technologies are eligible under the program's guidelines. In addition to low-interest loans, the Energy Division offers free audits and technical assistance. ⁹³
	Alternative Fuel and Fuel-Efficient Vehicle Use Requirements	Regulatory mechanism	By January 1, 2008, all state agencies, universities, and community colleges that have more than 10 state-owned vehicles in their fleet are required to develop and implement plans to increase the state's use of alternative fuels and hybrid electric or other fuel-efficient or low-emission vehicles. Specifically, each plan must incorporate a goal to reduce or displace at least 20% of the fleet's consumption of petroleum by January 1, 2010. If the fleet includes vehicles modified for educational, emergency, or public safety purposes or vehicles used for emergency or law enforcement purposes, the entity's plan must provide for a minimum 10% petroleum use reduction. (Reference House Bill 723, 2007.)
	Energy-Efficient Vehicle Acquisition Requirement	Regulatory mechanism	State fleets are encouraged to make every effort to ensure that at least 30% of newly purchased motor vehicles are energy-efficient vehicles. Energy-efficient vehicles are defined as passenger vehicles that are: alternative fuel vehicles as identified by the Energy Policy Act of 1992 (Public Law 102-486) including those using ethanol, biodiesel, or other alternative fuel; a hybrid-electric vehicle; or a conventional gasoline vehicle achieving a fuel economy of at least 25 miles per gallon or greater. Beginning June 30, 2008, the Commissioner of General Services will compile information on motor vehicles owned and leased by the state including a categorization of vehicles by an energy-efficiency rating. ⁹⁴
	Biofuels Committee	Regulatory mechanism	<p>The Governor's Interagency Alternative Fuels Working group, supported administratively by the Department of Environment and Conservation, has been established to develop a comprehensive state alternative fuels strategy that will provide a roadmap to make Tennessee a leader in the production, distribution, and use of biofuels. The Working Group is also tasked with developing a comprehensive, statewide public education and outreach campaign to increase public awareness and understanding of alternative fuels, particularly biofuels.</p> <p>Furthermore, state agencies are required to strive to use ethanol and biodiesel in appropriate state-owned vehicles whenever possible and should support the development of biofuels refueling infrastructure. The Departments of General Services and Transportation are required to develop a program to educate state employees about the use of biofuels and publicize fuel availability as new refueling sites become available. The Department of Transportation must continue efforts to encourage development of publicly accessible biofuel refueling stations across the state.⁹⁵</p>
Virginia	Biodiesel Production Tax Credit	Incentive-based	Qualified biodiesel and green diesel fuel producers are eligible for a tax credit of \$0.01 per gallon of biodiesel or green diesel fuels produced in a taxable year beginning on or after January 1, 2008. The annual amount of credit may not exceed \$5,000, and producers are only eligible for the credit for the first three years of production. Qualified producers must be certified by the Virginia Department of Mines, Minerals and Energy. ⁹⁶
	Biofuels Production Grants	Incentive-based	The Biofuels Production Incentive Grant Program provides grants to producers of biofuels, which include neat biodiesel fuel, neat green diesel fuel, and neat ethanol fuel. A qualified biofuels producer is eligible for a grant of \$0.10 per gallon of neat biofuels sold in the Commonwealth on or after January 1, 2007. To qualify, a biofuels producer must produce at least two million gallons of neat biofuels in the calendar year in which the incentive is taken. If a producer began selling neat biofuels prior to January 1, 2007, the producer is eligible for a grant only if its production of neat biofuels for the given calendar year exceeds its production in the 2006 calendar year by at least two million gallons and is maintained at a minimum of that level in future years. Each producer is only eligible for six calendar years of grants. (Reference Senate Bill 689, 2008, and Virginia Code 45.1-393 and 45.1-394)

	High Occupancy Vehicle (HOV) Lane Exemption	Incentive-based	Alternative fuel vehicles (AFVs) displaying the Virginia Clean Special Fuels license plate may use Virginia HOV lanes, regardless of the number of occupants, until July 1, 2009. For HOV lanes serving the I-95/395 corridor, only registered vehicles displaying Clean Special Fuels license plates issued prior to July 1, 2006, will be exempt from HOV lane requirements. Dedicated AFVs and some hybrid electric vehicles may qualify for the license plate and HOV exemption; see the Virginia Department of Motor Vehicles Web site for a complete list of qualifying vehicles. The annual fee for Clean Special Fuels license plates is \$25 in addition to the prescribed fee for state license plates. (Reference House Bill 1014, 2008, and Virginia Code 33.1-46.2 and 46.2-749.3)
	Alternative Fuel Job Creation Tax Credit	Incentive-based	Businesses involved with the manufacturing of components for alternative fuel vehicles (AFVs), AFV conversions, or the production, storage, or dispensing of hydrogen as a vehicle fuel are eligible for a job creation tax credit worth \$700 per full-time employee. The credit is allowed in the taxable year in which the job is created and in each of the two succeeding years in which the job is continued. Qualifying businesses include AFV component manufacturers and vehicle conversion companies. Qualified AFVs include vehicles that operate using natural gas, hydrogen, or electricity. This credit is effective for taxable years through December 31, 2011. (Reference Virginia Code 58.1-439.1)
	Alternative Fuel Vehicle (AFV) and Fueling Infrastructure Loans	Incentive-based	The Virginia Board of Education may use funding from the state Literary Fund to grant loans to school boards that convert school buses to operate on alternative fuels or construct alternative fueling stations. ⁹⁷
	Alternative Fuel Use and Fuel-Efficient Vehicle Acquisition Requirements	Regulatory mechanism	All state agencies and institutions must maximize biodiesel and ethanol use in state fleet vehicles except where the use of biodiesel will void warranties or incur unreasonable additional costs to the agencies. The Department of General Services (DGS) must make E85 and B20 available for agency use at sites selected based on the locations of state-owned flexible fuel and diesel vehicles. Agencies and institutions that independently purchase fuel must use E85 and B20 fueling sites to the maximum extent reasonably possible; state vehicles used for law enforcement and emergency response are exempt from these requirements. Additionally, the DGS must include in its policies and procedures requirements for the purchase of fuel-efficient, low-emission state-owned vehicles, as well as procedures for leasing vehicles requirements that give a preference to compact, fuel-efficient, and low-emission vehicles. ⁹⁸
	State Buildings Energy Reduction Plan	Regulatory mechanism	On April 5, 2007, Virginia's Governor signed Executive Order 48, "Energy Efficiency in State Government," which set out to reduce non-renewable energy purchases and increase overall energy savings. In addition, the order instructs the Commonwealth to encourage the private sector to adopt energy-efficient building standards by giving preference when leasing facilities for state use to facilities meeting LEED or EPA Energy Star Ratings. All state agencies and institutions constructing state-owned facilities over 5,000 gross square feet in size, and renovations of such buildings valued at 50% of the assessed building value, shall be designed and constructed consistent with energy performance standards at least as stringent as LEED and the EPA's Energy Star rating.

	Interconnection Standards	Regulatory mechanism	<p>The Virginia State Corporation Commission (SCC) first developed simplified interconnection rules for systems eligible for net metering in 2000. The rules were revised in 2005 after the capacity limit for non-residential systems was raised from 25 kilowatts (kW) to 500 kW. The rules were revised again in 2006 by permitting lease financing for net-metered systems and extending net metering to all systems that generate electricity using renewable energy, defined as “energy derived from sunlight, wind, falling water, sustainable biomass, energy from waste, wave motion, tides, and geothermal power.”</p> <p>Net metering is available on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators in Virginia reaches 1% of each electric distribution company’s peak load for the previous year. This includes residential customers generating up to 10 kW and commercial systems of up to 500 kW. Utilities that have already enrolled 1% of their peak load for the previous year are not required to allow additional customers to net meter.</p> <p>Customer-generators with systems that meet the major national safety and equipment standards — National Electrical Code (NEC), Institute of Electrical and Electronic Engineers (IEEE) Standard 1547 (July 2003), and Underwriters Laboratories (UL) — are not required to install any additional safety equipment. However, a utility’s net-metering tariff may require that customer-generators install a manual, external disconnect switch that complies with national safety requirements and is certified by a licensed electrician.</p> <p>Customer-generators must notify the electric distribution company and the energy service provider prior to interconnecting; the minimum advance-notice requirement depends on system size. Customer-generators may be required to pay up to \$50 for an inverter inspection for inverter-based systems. In addition, customer-generators with systems greater than 25 kW in capacity must reimburse the utility for its cost to modify any facilities needed to accommodate the interconnection with respect to power quality, voltage regulation and transformer loading. Customer-generators with interconnected systems that do not exceed 10 kW in rated capacity must have at least \$100,000 in liability insurance. Customer-generators with systems greater than 10 kW must have at least \$300,000 in coverage. The SCC is currently developing interconnection standards for distributed generation (DG) systems that are not net metered.</p>
--	---------------------------	----------------------	--

	Net-metering	Regulatory mechanism	<p>Virginia's net-metering law applies to residential generating systems up to 10 kilowatts (kW) in capacity and non-residential systems up to 500 kW in capacity. The maximum capacity for non-residential systems was raised from 25 kW to 500 kW by SB 651 of 2004. In 2006, HB 1541 extended eligibility to all systems that generate electricity using renewable energy, defined as "energy derived from sunlight, wind, falling water, sustainable biomass, energy from waste, wave motion, tides, and geothermal power." (Previously, net metering applied only to systems that generate electricity using solar, wind or hydro resources.) HB 1541 also permitted lease financing for net-metered systems.</p> <p>Net-metering is available on a first-come, first-served basis until the rated generating capacity owned and operated by customer-generators reaches 1% of an electric distribution company's adjusted Virginia peak-load forecast for the previous year. (The aggregate limit on net-metered capacity was raised from 0.1% to 1% in April 2007 by SB 1416 of 2006.) Net metering is available to customers of investor-owned utilities and electric cooperatives, but not to customers of municipal utilities.</p> <p>Net-metered energy is measured by a meter capable of gauging (but not necessarily displaying) power flow in both directions. Monthly net excess generation (NEG) is carried forward to the next month. In Virginia's original net-metering rules, any excess at the end of a twelve-month period was granted to the utility. However, it was later decided that, while the month-to-month system should remain intact, NEG remaining in the 12th month of the annual period could be credited to the following month. This credit may not exceed the amount of energy purchased during the previous annual period. Under legislation enacted in April 2007 (HB 2708 of 2006), at a net-metered customer's request, the utility is required to enter into power purchase agreements with the customer. This agreement obligates a utility to purchase customer NEG at a rate approved by the Virginia State Corporation Commission (SCC).</p> <p>Systems must comply with the National Electrical Code Article 690, Institute of Electrical and Electronic Engineers (IEEE) Standard 1547 (July 2003), and Underwriters Laboratories (UL) standards. Utilities may require (and usually do require) an external, lockable disconnect switch.</p>
West Virginia	Alternative Fuel School Bus Incentive	Incentive-based	<p>Any county that uses an acceptable alternative fuel, including compressed natural gas (CNG), for the operation of all or any portion of its school bus system is eligible for a reimbursement from the West Virginia Department of Education of up to 95% of the county's transportation cost for maintenance, operation, and related costs incurred from using the alternatively fueled school buses. A county qualifying for this allowance for alternative fuel use must submit a plan which includes the future use of the alternatively fueled school buses to the Department of Education.⁹⁹</p>
	Alternative Fuel Promotion	Incentive-based	<p>The Division of Energy is established to promote energy efficiency, increase the development and production of domestic energy sources, and increase public awareness of the environmental impacts of energy use and production. The Division of Energy is required to submit and implement a development plan that addresses fuel efficiency and alternative energy, including the implementation of clean, renewable energy sources such as landfill gas, fuel cells, renewable hydrogen fuel technologies, waste-to-ethanol fuel, and coal-based liquid fuels.¹⁰⁰</p>
	Alternative Fuel Production Subsidy Prohibition ¹⁰¹	Incentive-based	<p>Incentives or subsidies from political subdivisions for the production of alternative fuels are prohibited by law, with exceptions for certain coal-based liquid fuels.¹⁰¹</p>
	Clean State Program	Support program	<p>The West Virginia Clean State Program is advancing alternate fuel use through the use of educational and technical assistance.</p>

	Net-Metering	Regulatory mechanism	<p>The West Virginia Public Service Commission (PSC) approved consensus filings regarding net-metering and interconnection standards in December 2006. The approved consensus provisions include proposed rules that apply to all electric utilities in the state. Utility tariffs incorporating the consensus net-metering provisions took effect in March 2007.</p> <p>The approved consensus for net-metering applies to residential and commercial systems up to 25 kilowatts (kW) in capacity that generate electricity using photovoltaics (PV), wind, biomass, landfill gas, hydropower or fuel cells. Net excess generation (NEG) will be carried over to a customer-generator's next bill, for up to 12 months, as a kilowatt-hour (kWh) credit. Net-metering tariffs must be identical in rate structure, retail-rate components, and monthly charges, to the contract or tariff for which the customer would qualify if that customer were not a customer-generator. Customers on a time-of-use (TOU) tariff are permitted to net-meter.</p> <p>Each net-metered customer-generator must carry a minimum of \$100,000 in liability insurance; utilities may not require customers to carry additional liability insurance. No contracts or tariffs may require customers to (1) comply with any additional safety or performance standards beyond those established by the NEC, IEEE, UL, PSC rules and the standard wiring rules and customer requirements for electric service for each utility; or (2) perform or pay for any additional tests, if the system is pre-certified as complying with technical standards. Net-metering is accomplished using a single, bi-directional meter. However, a customer must pay for such a meter if one is not already in place. Although the consensus provisions do not include an aggregate cap on net-metered systems, each utility's tariff will limit the aggregate capacity to 0.1% of the utility's total load participation.</p>
	Provision for Establishment of Alternative Fuel Vehicle (AFV) Acquisition Requirements	Regulatory mechanism	<p>The Secretary of Administration has the authority to require that up to 75% of a state agency's fleet be made up of AFVs. To meet these requirements, AFVs may be purchased or leased, or existing vehicles may be converted to operate using alternative fuels.¹⁰³</p>

(Endnotes)

- 1 Code of Ala. § 40-18-15 (16).
- 2 <http://www.adeca.state.al.us/C16/Biomass%20Energy%20Program/default.aspx>.
- 3 Department of Energy, State and Federal Incentives and Laws, Alabama Incentives and Laws, also see (Alabama House Bill 123, 2007).
- 4 U.S. Department of Energy, State and Federal Incentives and Laws, Arkansas State Incentives and Laws, also House Bill 1379 and 1845, 2007.
- 5 AR Code § 22-3-1801 et seq.
- 6 www.dsireusa.org, Arkansas Incentives for Renewable Energy.
- 7 Arkansas Code § 23-18-603 et seq.
- 8 www.dsireusa.org, Arkansas Incentives for Renewable Energy.
- 9 Arkansas Senate Bill 237, 2007.
- 10 Information for this section derived from Florida Department of Environmental Protection, Florida Energy Office, Energy Tax Incentives Program <http://www.dep.state.fl.us/energy/energyact/incentives.htm>, in addition to <http://www.dsireusa.org> and the DOE.
- 11 Florida Senate Bill 888, 2006 and Florida Statutes 212.08.
- 12 Florida Statutes 403.507 (b).
- 13 Florida Statutes 316.0741.
- 14 Florida Department of Agriculture and Consumer Services.
- 15 Florida Department of Environmental Protection.
- 16 Florida Public Service Commission 25-6.065, F.A.C.
- 17 Georgia House Bill 670.
- 18 Georgia House Bill 1018.

19 Official Code of Georgia § 48-8-3 (2007).
20 Official Code of Georgia 48-7-40.16 (2007).
21 Official Code of Georgia 32-9-4 and 40-2-76 (2007).
22 Official Code of Georgia 50-8-170.
23 Georgia Senate Resolution 1201, 2008.
24 Georgia Governor Executive Order 02.28.06.02, 2006.
25 Reference Special Session Kentucky House Bill 1, 2007.
26 Special Session Kentucky House Bill 1, 2007, and Revised Statutes 141.422 to 141.425.
27 Kentucky Special Session House Bill 1, 2007.
28 Kentucky Revised Statutes 278.465.
29 Reference Special Session Kentucky House Bill 1, 2007.
30 Reference Executive Order 2005-124.
31 Louisiana Revised Statutes 47:301.
32 Senate Concurrent Resolution 112, 2005.
33 Louisiana Senate Concurrent Resolution 10, 2006.
34 Louisiana Revised Statutes 3:4674 and 3:3712.
35 Louisiana Revised Statutes 3:3712.
36 Mississippi Code 69-51-5.
37 Mississippi Senate Bill 2942, 2006.
38 R.S. Missouri § 135.3 et seq. (2006).
39 R.S. Missouri § 640.651-640.686.
40 Missouri Revised Statutes 142.028 and 142.029.
41 Missouri House Bill 741, 2007 and Revised Statutes 142.031.
42 Missouri Revised Statutes 414.433.
43 Missouri Revised Statutes 643.315.
44 Missouri Revised Statutes 142.803 and 142.869.
45 Missouri Senate Bill 54, 2007 and Revised Statutes 414.400 and 414.410.
46 Missouri Senate Bill 54, 2007 and Revised Statutes 414.420.
47 Missouri Revised Statutes 414.365.
48 Missouri Revised Statutes 414.255 and House Bill 1270, 2006.
49 North Carolina General Statutes § 105-129.15 et seq. and NC Tax Credit Guidelines.
50 North Carolina General Statutes § 153A-340 and General Statutes § 160A-381.
51 North Carolina Utilities Commission Order, Docket No. E-100, Sub 90.
52 North Carolina General Statutes § 143-345.18.
53 Reference North Carolina General Statutes 105-129.16D.
54 Reference North Carolina Senate Bill 540, 2007, and North Carolina General Statutes 105-449.72(a).
55 Reference North Carolina General Statutes 105-129.16D.
56 North Carolina General Statutes 105-164.13.
57 North Carolina HB 1473 (2007).
58 Authority 1: North Carolina Utilities Commission Order, Docket No. E-100, Sub 83 Date Enacted:10/20/2005
Authority 2: NCUC Order, Docket No. E-100, Sub 83 Date Enacted:12/27/2005 Authority 3: NCUC Order,
Docket No. E-100, Sub 83.
59 Authority 1: North Carolina Gen. Stat. § 62-133.8 Date Enacted:8/20/2007 Effective Date:1/1/2008 Authority
2: NCUC Order, Docket No. E-100, Sub 113 Date Enacted:2/29/2008 Effective Date:2/29/2008.
60 Reference North Carolina Senate Bill 567, 2007, and North Carolina General Statutes 143-143.6.
61 North Carolina Senate Bill 1452, 2007, and North Carolina General Statutes 115C-240(c) and 115C-249(a).

62 North Carolina Session Law 2005-276, Section 19.5.
63 Oklahoma House Bill 1916, 2007, and Oklahoma Statutes 68-500.4 and 68-500.10.
64 Oklahoma Senate Bill 1558, 2008, and Oklahoma Statutes 68-2357.22.
65 Oklahoma Senate Bill 1558, 2008, and Oklahoma Statutes 68-2357.22.
66 Oklahoma House Bill 1513, 2007, and Oklahoma Statutes 68-2357.67.
67 Oklahoma House Bill 1513, 2007, and Oklahoma Statutes 68-2357.66.
68 Oklahoma Statutes 68-500.10-1.
69 Oklahoma Statutes 74-130.4.
70 Oklahoma Statutes 74-130.11 through 74-130.24.
71 O.A.C. § 165:40-9.
72 Oklahoma Statutes 2-1950.10 and 2-1950.11.
73 Oklahoma Statutes 74-130.3.
74 Oklahoma Statutes 47-11-805.1.
75 Oklahoma Statutes 68-723.
76 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-63-20.
77 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-63-20.
78 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-6-3600.
79 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-6-3631 and HB 3649,2008.
80 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-63-3610.
81 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-63-3610.
82 Oklahoma House Bill 3749 (sec. 68).
83 Oklahoma House Bill 3749 (sec. 68).
84 South Carolina Senate Bill 243, 2007, and South Carolina Code of Laws 12-63-30.
85 South Carolina House Bill 3161, 2007, and South Carolina Code of Laws 59-67.
86 South Carolina Code of Laws 56-1-10, 56-2-100 to 56-2-130, and 56-5-820.
87 Executive Order 2001-35.
88 South Carolina Code of Laws 12-28-110 and 12-36-2120.
89 PSC Order, Docket No. 2005-387-E.
90 Tennessee House Bill 2216, 2007, and Tennessee Code 54-1-136.
91 Tennessee House Bill 2216, 2007, and Tennessee Code 54-1-136.
92 Tennessee House Bill 1826, 2007, and Tennessee Code 67-3-103 and 67-3-423.
93 Authority 1: Tenn. Code § 4-3-710 Authority 2: Tenn. Code § 4-3-702.
94 Tennessee Senate Bill 123, 2007, and Tennessee Code 4-3-11.
95 Executive Order 33, 2006.
96 Virginia House Bill 139, 2008, and Virginia Code 58.1-439.12:02) .
97 Virginia Code 22.1-146 .
98 Virginia Executive Order 48, 2007.
99 West Virginia Code 18-9A-7.
100 West Virginia Code 5B-2F-2.
101 While this regulation does not promote biomass energy, it is listed because it is a regulatory mechanism that could greatly affect biomass energy production processes within the state in question.
102 West Virginia Code 5A-2A-2.
103 West Virginia Code 5A-2A-2.