

Southern States Energy Board  
Annual Report  
**2006**

“Emerging Technologies  
for America’s Energy  
Security”



*Southern States Energy Board*

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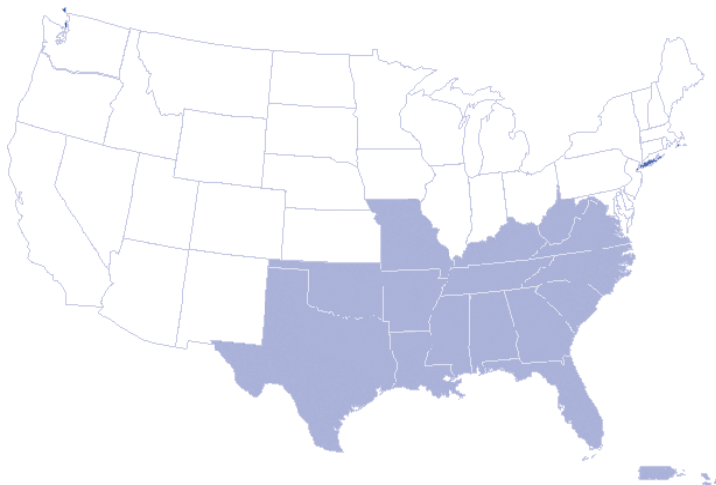
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*"Through innovations in energy and environmental policies, programs and technologies, the Southern States Energy Board enhances economic development and the quality of life in the South."*

## Southern States Energy Board

The Southern States Energy Board (SSEB) is a non-profit interstate compact organization created in 1960 and established under Public Laws 87-563 and 92-440. The Board's mission is to enhance economic development and the quality of life in the South through innovations in energy and environmental policies, programs and technologies. Sixteen southern states and two territories comprise the membership of SSEB: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, U.S. Virgin Islands, Virginia and West Virginia. Each jurisdic-



tion is represented by the governor and a legislator from the House and Senate. A governor serves as the chair and legislators serve as vice-chairman and treasurer. Ex-officio non-voting Board members include a federal representative appointed by the President of the United States, the Southern Legislative Conference Energy and Environment Committee chair and SSEB's executive director, who serves as secretary.

SSEB was created by state law and consented to by Congress with a broad mandate to contribute to the economic and community well-being of the southern region. The Board exercises this mandate through the creation of programs in the

fields of energy and environmental policy research, development and implementation, science and technology exploration and related areas of concern. SSEB serves its members directly by providing timely assistance designed to develop effective energy and environmental policies and programs and represents its members before governmental agencies at all levels.

The Southern States Energy Board's long-term goals are to:

- perform essential services that provide direct scientific and technical assistance to state governments;
- develop, promote and recommend policies and programs on energy, environment and economic development that encourage sustainable development;
- provide technical assistance to executive and legislative policy-makers and the private sector in order to achieve synthesis of energy, environment and economic issues that ensure energy security and supply;
- facilitate the implementation of energy and environmental policies between federal, state and local governments and the private sector;
- sustain business development throughout the region by eliminating barriers to the use of efficient energy and environmental technologies; and
- support improved energy efficient technologies that pollute less and contribute to a clean global environment while protecting indigenous natural resources for future generations.





# 2005-2006 Board Membership

The list of members below reflects officials serving on the Board as of June 20, 2006. For a current roster, please contact the SSEB staff or visit our website at [www.sseb.org](http://www.sseb.org).

## Executive Committee

### Chairman, 2004-2006

The Honorable Ernie Fletcher, Governor of Kentucky◆

### Chairman-Elect

The Honorable Joe Manchin, III, Governor of West Virginia◆

### Vice Chairman

Senator John C. Watkins, Virginia◆

### Treasurer

Representative Myra Crownover, Texas◆

### Members, Executive Committee

The Honorable Kathleen Babineaux Blanco,  
Governor of Louisiana◆

The Honorable Matt Blunt, Governor of Missouri◆

Senator Jimmy Jeffress, Arkansas◆

Senator Jeff Rabon, Oklahoma◆

Representative Harry Geisinger, Georgia◆

Representative John Raymond Reeves, Mississippi◆

### Federal Representative

The Honorable Brian C. Griffin★

### Secretary to the Board

Mr. Kenneth J. Nemeth, Executive Director,  
Southern States Energy Board★

### Southern Legislative Conference Energy and Environment Committee Chair

Senator J. Chris Ullo, Louisiana▼

## Members of the Board

### Alabama

The Honorable Robert Riley, Governor

Senator Jimmy W. Holley

Representative Locy "Sonny" Baker

Representative Lynn Greer, House Alternate

Representative Pete B. Turnham, Emeritus, House Alternate

### Arkansas

The Honorable Mike Huckabee, Governor

Mr. Shane Khoury, Office of the Governor,  
Governor's Alternate

Senator Jimmy Jeffress◆

The Honorable Bill H. Stovall, III,  
Speaker of the House of Representatives

### Florida

The Honorable Jeb Bush, Governor

Mr. Alexander Mack, Florida Energy Office,  
Governor's Alternate

Senator Lee Constantine

Representative Kenneth W. "Ken" Littlefield

### Georgia

The Honorable Sonny Perdue, Governor

Mr. Jimmy Skipper, Attorney at Law, Sumter County,  
Governor's Alternate

Senator Doug Stoner

Representative Harry Geisinger◆

### Kentucky

The Honorable Ernie Fletcher, Governor◆

Mr. Stan Cave, Office of the Governor,  
Governor's Alternate

Senator Robert Stivers

Representative Rocky Adkins

#### Louisiana

The Honorable Kathleen Babineaux Blanco, Governor◆  
Mr. Scott Kirkpatrick, Office of the Governor,  
Governor's Alternate  
Senator Max Malone  
Representative Wilfred Pierre

#### Maryland

The Honorable Robert Ehrlich, Jr., Governor  
Mr. Frederick Davis, Maryland Energy Administration,  
Governor's Alternate  
Senator John Hafer  
Delegate Dereck E. Davis

#### Mississippi

The Honorable Haley Barbour, Governor  
Senator Thomas E. King, Jr.  
Representative John Raymond Reeves◆

#### Missouri

The Honorable Matt Blunt, Governor◆  
Mr. Ken McClure, Office of the Governor,  
Governor's Alternate  
Senator Kevin Engler  
Representative Rex Rector

#### North Carolina

The Honorable Michael F. Easley, Governor  
Mr. Larry Shirley, State Energy Office,  
Department of Administration, Governor's Alternate  
Senator David W. Hoyle  
Representative Joe Hackney

#### Oklahoma

The Honorable Brad Henry, Governor  
The Honorable David S. Fleischaker, Secretary of Energy,  
Governor's Alternate  
Senator Jeff Rabon◆  
Representative Dennis Adkins

#### Puerto Rico

The Honorable Anibal Acevedo Vilá, Governor  
Dr. Javier A. Quintana, Puerto Rico Department of Natural &  
Environmental Resources, Energy Affairs Administration,  
Governor's Alternate  
Senator Carlos Díaz  
Representative Severo Colberg Toro

#### South Carolina

The Honorable Mark Sanford, Governor  
Mr. Austin Smith, Office of the Governor,  
Governor's Alternate  
Senator John C. Land, III  
Representative Robert "Skipper" Perry, Jr.

#### Tennessee

The Honorable Phil Bredesen, Governor  
Senator Jerry W. Cooper  
Representative Gary Odom

#### Texas

The Honorable Rick Perry, Governor  
Mr. Michael L. Williams, Railroad Commission of Texas,  
Governor's Alternate  
Senator Kip Averitt  
Representative Myra Crownover◆

#### U.S. Virgin Islands

The Honorable Charles W. Turnbull, Governor  
Mr. Bevan R. Smith, Jr., Virgin Islands Energy Office,  
Governor's Alternate

#### Virginia

The Honorable Tim Kaine, Governor  
Dr. Michael Karmis, Virginia Center for Coal and Energy  
Research, Virginia Tech, Governor's Alternate  
Senator John C. Watkins◆  
Delegate Harry R. Purkey

#### West Virginia

The Honorable Joe Manchin, III, Governor◆  
Dr. Patrick Esposito, Sr., Energy Advisor,  
Governor's Alternate  
Senator William R. Sharpe, Jr.  
Delegate Harold K. Michael

#### Federal Representative

The Honorable Brian C. Griffin★

#### Secretary to the Board

Mr. Kenneth J. Nemeth, Executive Director★

#### Southern Legislative Conference Energy and Environment Committee Chair

Senator J. Chris Ullo, Louisiana▼

◆Executive Committee Members

★Ex-Officio, Non-Voting Executive Committee Members

▼The Board's by-laws provide that the Southern Legislative Conference  
Energy and Environment Committee chair serves as a non-voting Executive  
Committee Member.

# Value-Added Services to Member States

Participation by all member jurisdictions in the Southern States Energy Board Compact is critical not only to the state but also to the region. All of the activities of the Board, as described in this *Annual Report*, benefit the southern region in the development of a sound economy, proper utilization and diversity of energy sources and increased industrialization, while providing for protection of the environment to ensure public health, safety and welfare. SSEB often undertakes state-specific projects with those same goals in mind.

Listed below are value-added services SSEB member states and its citizens receive as members of the Compact.

- SSEB obtains funding for state and regional projects at the request of its membership, committees and working task forces. This funding provided to our states generally is far in excess of appropriations paid to SSEB by its members.
- SSEB negotiates collective funding for member states on programs that support energy and environmental research, education and training, technology development, regulatory reform and other key issue areas.
- SSEB funds the direct participation of state officials in projects and activities in order to enable states to remain current on new programs, trends and technologies while decreasing the impact of travel on member state budgets.
- SSEB works directly with businesses and industries on specific economic development projects that create and sustain jobs and expand the economy.
- SSEB provides regional forums, conferences and workshops in member states that stimulate and promote economic development, while facilitating peer and professional development.
- SSEB conducts training and other professional development activities that address energy and environmental programs and technologies.

- SSEB conducts research and recommends solutions to specific issues on request of member state officials and businesses.

The development of energy markets will remain central in determining the long-term health of our Nation's economy. For this reason, we need to strongly consider a path that enables us to balance the importation of foreign energy sources with the use of domestic sources of energy for national security purposes.

A diverse portfolio of fuels and new and innovative technologies is needed to ensure a stable and sustainable energy future in our country; a future that is devoid of electricity blackouts and long lines at the gas pump. The Southern States Energy Board, as a governmental energy and environmental organization, serves as a regional catalyst, delivering policies, programs and innovative technologies to provide the advances necessary to determine a bright, economic future in the southern region.





# Report of the Chairman

The Southern States Energy Board is celebrating its 46th year of service to the southern region. Formed by the governors and legislatures of the South in 1960 to focus on issues affecting energy, environment, science, space and technology development, the Board's initial emphasis targeted nuclear energy, as plans to construct power plants escalated in the region. President John F. Kennedy was an early supporter of the Board and indicated his support in a letter written during July of 1962. While the emphasis and mission of the Board has been expanded and altered over the years by its membership, its commitment to enhance economic development and the quality of life in the South remains.

Global economic growth, spiraling energy costs, expanding homeland security concerns, natural disasters and the war in Iraq have combined to place a heavy burden on the federal budget, and this has affected the costs of goods and services throughout the country. Never before has the United States faced such a multiplicity of challenges on an international scale.

To enable America to remain competitive with other nations, President George W. Bush focused on energy issues during his State of the Union address earlier this year. The President's message is a strong warning to all of us that we must act quickly to reduce our Nation's growing dependence on foreign oil. He announced the Advanced Energy Initiative, a 22 percent increase in clean energy research focused on zero emission coal-fired power plants, a resurgence of nuclear power and solar and wind technologies. To change the way we power our automobiles, the President recommended additional battery research for hybrid and electric cars and pollution-free vehicles powered by hydrogen.

Even before the President's address, the Southern States Energy Board unanimously approved an American Energy Security study at our Annual Meeting on August 29, 2005. The Board requested that the study focus on soaring energy prices, energy security and the shortages of liquid transportation fuels available throughout the country. I have been an active and enthusiastic supporter of this study, and the Commonwealth of Kentucky was the first state to make a financial contribution to this important national effort. The goal of the Board's study is to implement federal legislation that will address the fiscal, tax, legislative and regulatory reforms necessary to ensure affordable, quality liquid transportation fuels for the American public.

While the Board agreed that the country does not face an "energy crisis," it is apparent that a shortage of viable liquid transportation fuels is being exacerbated by four oil-related risks to our economy. First, we face an expanding dependence on oil supplies delivered to us by unstable and unfriendly foreign countries. America consumes 22 million barrels of oil per day, and 67 percent of that total powers the transportation sector of our economy. Second, many experts have predicted that world oil supplies soon will peak and begin a steady decline. Third, we face inexorable competition for oil from huge, developing countries such as China and India. And fourth, last year's hurricanes demonstrated just how vulnerable our energy infrastructure is and how easily supplies can be disrupted. Even more daunting is the fact that oil is being used as an international weapon by terrorists, and that is a threat that can be eliminated if we act as a Nation to do so.



The Honorable Ernie Fletcher, Governor  
Commonwealth of Kentucky

The architect of the Southern States Energy Board's American Energy Security study is Mr. Robert Addington of my state, Kentucky. Mr. Addington is an educator, technology developer, coal miner and a principal in The Addington Companies, which maintains substantial coal mining holdings in a number of southern and western states. Mr. Addington's philosophy is a simple one: America must begin a transition to the use of indigenous resources for its liquid transportation fuels or face a future of energy insecurity, supply disruptions and escalating costs for foreign sources of oil.

The American Energy Security study examines our energy vulnerabilities as a Nation, and targets coal-to-liquids (CTL), biomass and oil shale as indigenous fuels that almost immediately can change the future course of the country, if we have the national will to do so. The land area of the United States supports more than 25 percent of the world's coal resources; 2.1 trillion barrels of oil equivalent from reserves of domestic oil shale; and over 1.5 million barrels of oil per day from biomass resources, much of which are located in the southern region of our country. Today, with our new zero emission and industrial ecology-based technologies, we can utilize these potential energy sources without polluting our environment through the dispersion of greenhouse gases.

A primary objective of our study is to replace approximately five percent of imported oil each year for 20 years beginning no later than 2010. A key to this plan will require the construction of multiple liquid fuel plants each year, some of which are underway.

The Southern States Energy Board recommends that the following capital funding policies be implemented to encourage the private sector to step forward on a massive scale. The specific fiscal, tax, legislative and regulatory recommendations presented below are all designed to encourage private sector commitments to seize this opportunity and provide for America's security and economic energy future. Our suggested policies are summarized as follows:

- extend the \$0.50 per gallon Alternative Liquid Fuels Excise Tax Credit;
- provide accelerated cost recovery to alternative fuel plant owners;
- incentivize refining of alternative liquid fuels;
- provide explicit DOE authority and appropriations for loan guarantees;
- fund the Military Alternative Fuels Testing and Development Program;
- authorize and fund military purchases of alternative fuels under long-term contract;
- eliminate the \$10 million cap for tax exempt industrial development bonds;
- provide regulatory streamlining for the production of alternative liquid fuels;
- establish a self-sustaining government corporation to provide market risk insurance;
- expand the Strategic Petroleum Reserve (SPR) program to include alternative liquid fuels products;
- provide incentives for existing ethanol plants to convert to coal; and
- provide incentives for enhanced oil recovery (EOR) and enhanced coalbed methane recovery using carbon dioxide (CO<sub>2</sub>) captured from alternative fuel plants.

Funding for our study came from the Commonwealth of Kentucky; the U.S. Department of Defense (DoD); Peabody Energy; the National Mining Association; the Association of American Railroads; Rentech Corporation, the U.S. Department of Energy (DOE) and Southern States Energy Board.

Key to the implementation of this program are complimentary efforts aimed at the use of advanced coal technologies. The Southern States Energy Board's Chairman-Elect, Governor Joe Manchin, III, of West Virginia, developed a coal conversion initiative that is unique to the Nation. This plan includes the siting of "polygen" plants that generate electricity but also can provide opportunities for carbon sequestration, coal-to-liquids, biomass conversion, process chemicals and hydrogen. A Public Energy Authority for siting these facilities is administering the program. Governor Manchin's innovative approach forms the basis of a cooperative effort between government and industry in the southern region, and the Southern States Energy Board applauds its success.



The Honorable Joe Manchin, III, Governor of West Virginia, announces his coal conversion initiative at a press conference on October 13, 2005.

The President's Global Climate Change Initiative is a major endeavor to reduce greenhouse gas intensity by 18 percent by the year 2012. In tandem with this presidential initiative, the Southern States Energy Board is managing the Southeast Regional Carbon Sequestration Partnership, known as SECARB, to explore the best approaches for capturing, storing, using and disposing of carbon dioxide and other greenhouse gases throughout the southern region. SECARB is one of seven partnerships supported by the U.S. Department of Energy and over 80 businesses, industries, academic institutions and government entities in the South. Its aim is to develop the infrastructure necessary to validate and deploy carbon sequestration technologies.

During Phase I, the SECARB partners examined sources and sinks in the region most suited for terrestrial and geologic sequestration options. Phase II of this program began in October of 2005 and is a four-year effort of diverse field tests to utilize captured carbon dioxide for enhanced oil recovery along the Gulf Coast; determine options for sequestering carbon in saline reservoirs in the Mississippi Salt Basin; test sequestration opportunities in the Black Warrior Basin of Alabama; scrutinize coal fields in Kentucky, Virginia and West Virginia for enhanced coal bed methane recovery; and further evaluate formations for potential sequestration in Florida, Georgia, North Carolina, South Carolina and Tennessee. The field tests also will validate corresponding infrastructure approaches related to monitoring, measurement and verification (MMV); regulatory regimes; permitting; and public education and outreach.

Interest in the development of new, clean energy technologies is a priority for government/industry partnerships in the South. Three southern states, Texas, West Virginia and Kentucky, have applied to provide sites for FutureGen, the President's \$1 billion near-zero emissions coal plant that will sequester carbon and other greenhouse gases.

The SSEB Committee on Clean Coal and Energy Technologies Collaboration is a partnership promoting the production and use of the region's coal resources, in cooperation with the U.S. Department of Energy. Comprised of state, federal, academic and industry officials focused on domestic and international coal issues, the Committee focuses on the use of coal for energy and electricity and the technologies that power cleaner fossil energy systems. During this year, the Committee's domestic agenda includes coal mine safety legislation; technologies for converting coal-to-liquids; new gasification technologies; carbon sequestration; coal bed methane recovery; and a new vision for educating the coal miner of the future.

An aging coal mine workforce in the South is an emerging issue of paramount importance to the coal industry. With miners averaging 50 years of age, it only will be a few years before the industry faces a massive manpower shortage. To stem this serious problem, I established the Kentucky Coal Academy to develop a professional career path incentive for new miners with modern education facilities and new simulator training equipment. Other states, including Virginia and West Virginia, are pursuing similar approaches to secure a viable and productive coal industry in the future.



As part of its international mission, the Committee on Clean Coal and Energy Technologies Collaboration has continued to supply U.S. expertise to the Industrial Estate Authority of Thailand in its application of clean coal technologies and advanced power systems; resource recovery for industrial ecology projects such as gypsum waste processing and ash utilization; emissions controls for power plants at industrial estates; reverse trade missions; and partnerships with Thai universities. Increasing market opportunities and removing barriers to deployment of U.S.-based clean energy technologies is a primary objective.

In 2001, the Southern States Energy Board established the Southern States Biobased Alliance. Members of the Alliance from each state include a gubernatorial appointee and a member of the state legislature. The mission of the Alliance is to develop and promote the use of biomass, bioenergy, biofuels and biobased products to foster a regional industry and boost rural economies. Emphasis on projects stimulated by the Alliance is on energy, agriculture and forestry. The Southern States Energy Board also serves as the manager and funding agent for the Southeastern Biomass State/Regional Partnership, in cooperation with the U.S. Department of Energy. Some of the innovative projects initiated in the past year include the development of a liquid biofuels plant for the state of Alabama; the creation of the Florida Biomass Network to identify production capacity; petroleum fuels reduction and increased use of ethanol through the Trust for the Future in Tennessee; grease biodiesel to power campus vehicles at the University of Puerto Rico; marketing biomass residues from corn and cereals in Missouri; a North Carolina biomass waste exchange that trades biobased products; and a landfill biogas utilization program in the U.S. Virgin Islands. Many of these insightful partnerships are administered by state energy offices that are strongly supporting the challenge to develop and use renewable fuels to decrease the Nation's dependence on imported oil.

The Southern States Energy Board and its Associate Member, the Nuclear Energy Institute, are cooperating on a publication for decision-makers highlighting the re-emergence of nuclear power plant siting in the southern region and across the country. Today nuclear power supplies 20 percent of our Nation's energy needs and current plants are highly recognized for their contributions to air quality as well as their extremely high operational efficiencies. In 2005, the 45 operating nuclear reactors in the SSEB region helped avoid emitting



some 305 million tons of CO<sub>2</sub>, 1.4 million tons of sulfur oxide, and 480 thousand tons of nitrous oxide. At present, more than 19 plants nationally are in the early planning stages, with 12 of these in the Southern States Energy Board member states. A number of nuclear plants are being uprated as well, adding some 4,600 megawatts nationwide since 1977, resulting in additional electrical generation from assets currently in place. Recently, the Board's Vice-Chairman, Senator John Watkins of Virginia, authored an editorial advocating an increased role for nuclear fission in Virginia's future energy strategy. The Senator's premise is that the continued use of nuclear energy is essential in sustaining the Nation's economic growth and the quality of life in the region. This resurgence will be possible and less expensive than the last generation of reactors due to new plant design and safety features, early site review and banking, a streamlined licensing and regulatory process and increased environmental benefits.



The Honorable Ernie Fletcher (center), Governor of Kentucky serves as SSEB's Chairman. Seated on his right is SSEB Board Member Mr. Jimmy Skipper of Georgia. Senator John C. Watkins of Virginia, SSEB's Vice-Chairman, is seated to Governor Fletcher's left.

The Southern States Energy Board's committees on transuranic waste and radioactive materials transportation are committed to working with the U.S. Department of Energy to ensure safe movement of shipments throughout the region and that states are adequately prepared in the event of an incident. Training is a major emphasis of the committees during this year. Alabama, Georgia and Texas participated in radioactive materials accident exercises to test the preparedness level of their first responders. West Virginia will host a similar exercise in October of 2006. Both committees received Transportation Routing Analysis Geographic Information System (GIS) training at the U.S. Nuclear Regulatory Commission headquarters earlier this year. Familiarity with routing will help the states to better understand the rail and highway routing selection process for impending shipments of spent fuel and high-level radioactive waste. The committees also have collaborated with DOE's Environmental Management Office to conduct commodity flow surveys. These assessments provide a snapshot of the categories of materials moving along major transportation corridors in the region. In the near future, SSEB's Radioactive Materials Transportation Committee will administer funding and technical assistance to states in support of shipments conducted under the Nuclear Waste Policy Act. All of these activities and forms of training will enhance the states' abilities to support shipments from commercial reactors in the South to the national repository.

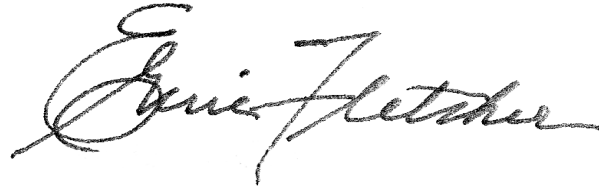
The Board's ongoing regional transportation planning also coordinated the re-routing of transuranic waste shipments following Hurricane Katrina. These shipments were re-routed from their origin at the Savannah River Site (SRS) in South Carolina to their destination near Carlsbad, New Mexico, to avoid transport through Alabama, Mississippi and Louisiana. Preparation for shipments of transuranic waste from DOE's eastern sites led to the incorporation of Maryland, Virginia and West Virginia into SSEB's Transuranic Waste Transportation Working Group. These states will receive funding in Fiscal Year 2007 for program development and equipment purchasing for this campaign.

All members of the Southern States Energy Board strongly support the work of their state energy offices. These valuable agencies are among the few on-the-ground resources to increase energy efficiency for residential, business and other consumers by educating the public on strategies to reduce consumption while helping develop alternative energy and renewable energy resources. A recent study by the U.S. Department of Energy's Oak Ridge National Laboratory found that every dollar spent by states and territories to support their 2002 activities helped to save \$7.22 in annual energy costs. Those savings and value per federal dollar are even greater today in light of current energy prices.

Energy conservation and efficiency have been high on the agendas of southern states, and the fuel crisis during this year has accelerated aggressive policy-making in the South. The Southern States Energy Board has provided strong support for these measures. Kentucky, Virginia and Florida have introduced new energy conservation and efficiency plans developed in partnership with state energy offices, and Georgia has a draft energy strategy out for review.

The Missouri General Assembly passed legislation this year to require a 10 percent ethanol blend in most gasoline; gave consumers a hybrid vehicle tax credit; and called for statewide standards for using renewable energy. The Oklahoma Legislature also provided tax breaks to businesses using renewable energy. New Florida legislation exempts sales and use taxes on items related to hurricane preparedness. The Commonwealth of Puerto Rico is considering tax incentives for the development of solar and wind energy as well as a net metering program.

All of these important efforts prove, once again, the value of an organization like the Southern States Energy Board to the southern region. It is important to note that the Board has generated more than \$58 million in economic benefits which spread across our 16 states and two territories. I urge you to carefully review this Annual Report and its remarkable record of success!

A handwritten signature in black ink, reading "Ernie Fletcher". The signature is fluid and cursive, with a large initial "E" and a long, sweeping underline.

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Ernie Fletcher  
Governor  
Commonwealth of Kentucky  
Chairman, Southern States Energy Board



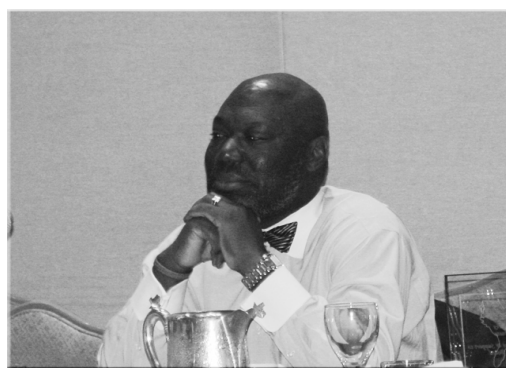


# Event Photographs, 2005-2006

## Southern States Energy Board 45<sup>th</sup> Annual Meeting August 27-29, 2005 - Greensboro, Georgia



Ms. Cynthia Oliphant (left), former Director of the Tennessee Energy Division, and Mr. Paul Burks (right) of the Georgia Environmental Facilities Authority are recognized during the SSEB 45<sup>th</sup> Annual Meeting in Greensboro, Georgia, for their service to the Board.



Mr. Michael L. Williams of the Railroad Commission of Texas, and Governor Rick Perry's Alternate to the Board, participates in the Board meeting.



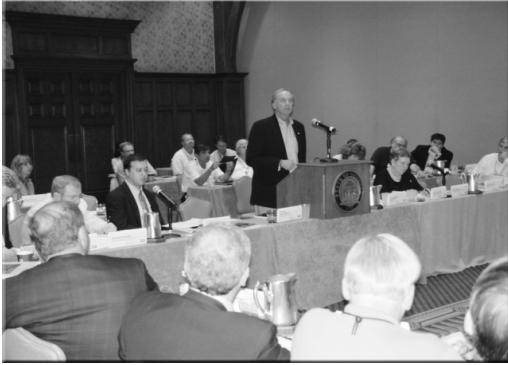
Representative Rocky Adkins, Kentucky, participates in the Board's 45<sup>th</sup> Annual Meeting.



Dr. Robert Hirsch, Senior Energy Program Advisor to Science Applications International, presents "Peaking World Oil Production and the Road to Energy Futures" to members of the Board.

## Event Photographs, 2005-2006

### Southern States Energy Board 45<sup>th</sup> Annual Meeting August 27-29, 2005 - Greensboro, Georgia (cont.)



Senator John C. Watkins of Virginia facilitates discussion between SSEB Electric Utility Task Force members. Senator Watkins serves as co-chair of the Task Force.



PJM Interconnection was highlighted in Mr. W. Scott Miller's presentation to the Board's Electric Utility Task Force.



Mr. Lawrence Mansueti, with the U.S. Department of Energy, provides an outlook on electricity delivery and energy reliability in the South.



Dr. Stanley Blazewicz, Director of Navigant Consulting, delivers a presentation on microgrids during the SSEB Electric Utility Task Force meeting.



Mr. Lindsay Thomas of AGL Resources in Atlanta focuses the SSEB's Associate Members' attention on the prospects of liquefied natural gas and outer continental shelf development in the South.



Mr. Gregory Pauley of American Electric Power interacts with SSEB Associate Members.

## Event Photographs, 2005-2006

### Southern States Energy Board 45<sup>th</sup> Annual Meeting August 27-29, 2005 - Greensboro, Georgia (cont.)



Dr. Michael Karmis, Virginia Center for Coal and Energy Research, Mr. Scott Kirkpatrick, Office of the Governor of Louisiana, and Mr. Ken McClure, Office of the Governor of Missouri, interact with SSEB's Associate Members.



Mr. Larry Shirley (left), North Carolina State Energy Office, and Mr. Herbert Wheary, Dominion, participate in the SSEB Associate Member Meeting.



Mr. Mark Crews, Southern Company, contributes to the discussion during SSEB's Associate Members meeting.



Mr. Ralph Smith of the U.S. Department of Energy's Carlsbad Field Office briefs the SSEB Associate Members on transuranic waste shipments in the South.

## Event Photographs, 2005-2006

### Southern States Energy Board Briefing to Legislative Member and Associate Members Meeting, July 30, 2005 - Mobile, Alabama



Representative John Raymond Reeves, Mississippi, presents recent activities of the Southern States Biobased Alliance to SSEB members in Mobile, Alabama. Representative Reeves serves as co-chair of the Alliance along with Mr. John Davies of the Kentucky Division of Renewable Energy and Energy Efficiency (not pictured).



Ms. Jeanelle McCain of Progress Energy facilitates the SSEB Associate Members meeting as Chair in Mobile, Alabama.



Mr. Morry Markowitz, Senior Director of External Affairs at Edison Electric Institute, briefs the SSEB Associate Members on the status of the federal energy bill in Mobile, Alabama.



Mr. Randy Eminger, Center for Energy and Economic Development, summarizes the federal energy bill before the Board's legislative members in Mobile, Alabama.

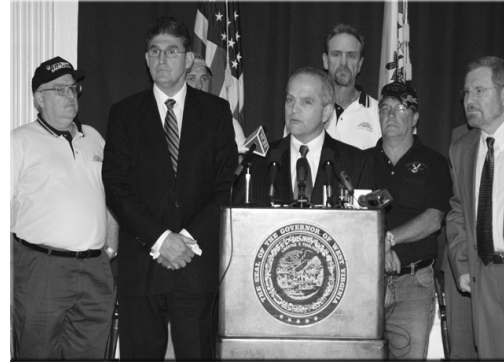


## Event Photographs, 2005-2006

### West Virginia Coal Conversion Initiative Press Conference October 13, 2005 - Charleston, West Virginia



The Honorable Joe Manchin, III, Governor of West Virginia, holds a press conference to unveil his coal conversion initiative on October 13, 2005.



Dr. Patrick Esposito, Sr., West Virginia's Energy Advisor, states his support of Governor Manchin's Coal Conversion Initiative.



# Current Programs & Activities

## American Energy Security

On August 29, 2005, at its 45th Annual Meeting, the Southern States Energy Board unanimously approved the American Energy Security study. The purpose of the study is to examine the undue burden currently being placed on our liquid transportation fuels through foreign oil imports and to determine a means to provide for energy security and independence to ensure fuel price stability and future economic prosperity.

Energy security and the price of petroleum fuel supplies have been a dominant theme in the news over the past year. Escalating prices of oil above \$75 per barrel have given rise to a number of legislative calls for alternative methods of reducing the Nation's dependence on foreign oil supplies and drastically increasing the use of our domestic resources by providing petroleum substitutes for transportation fuel. The President, in his 2006 State of the Union address, called for the United States to drastically reduce its dependence on foreign oil, particularly from the Middle East. With imports of over 12 million barrels of foreign oil per day, the United States is economically vulnerable to the price and quantity of oil available. The SSEB study has determined that this Nation faces four serious oil-related risks: (1) excessive dependence on the Organization of Petroleum Exporting Countries (OPEC) and on other unstable foreign oil suppliers; (2) conventional oil supplies are not meeting dramatic increases in world demand; (3) rapidly increasing global competition for oil from China, India and other developing nations will further stretch supplies; and (4) supply disruptions from natural disasters (and potential terrorism).

The American Energy Security action plan and study results will focus on the rapid development of an alternative oil and liquid fuels production base in America utilizing our vast domestic resources including coal, oil shale and biomass.

The plan also will emphasize the need for increased transportation fuel efficiency, sensible energy conservation and improved domestic enhanced oil and coal bed methane recovery programs using carbon dioxide.



One goal of the SSEB study is to show how America can replace approximately five percent of U.S. imported oil each year for 20 years, beginning in the next five years. A key component of this plan will be construction of multiple alternative liquid fuel plants each year. Several important factors in this approach to energy independence include, first, the fact that the United States has significant quantities of alternative oil resources rivaling the total worldwide conventional oil reserves. Trillions of tons of American coal, oil shale and renewable biomass resources are available to be converted to premium quality liquid fuels using existing and rapidly emerging technologies. Second, by producing environmentally superior transportation fuels from near-zero emissions plants that can recycle, utilize and sequester CO<sub>2</sub>, the

United States can be an example for the world, in particular the rapidly expanding energy production capabilities of China and India. Liquid fuels produced from coal, oil shale and biomass have very low sulfur, low particulate and nitrogen oxides emissions and higher performance characteristics than their conventional distillate counterparts. In addition, the plants



that produce the liquids can be capable of capturing carbon. Third, the SSEB study will focus primarily on the rapid development of coal/oil shale/biomass-to-liquid fuels production. Finally, commercial enhanced oil recovery successes using CO<sub>2</sub> flooding suggest that American oil and gas production can be dramatically increased using these methods. Miscible CO<sub>2</sub> flooding can revitalize certain mature oil fields. In addition, the study will support CO<sub>2</sub> injection into coal and oil shale deposits in an emerging technology that can increase natural gas production from these sources. At present, limited availability of CO<sub>2</sub> supplies severely constrains this production-enhancing technique. However, the liquids plants will produce and capture large quantities of CO<sub>2</sub> that can be used by oil and gas producers for this purpose. Not only can the CO<sub>2</sub> be put to a positive use and sequestered beneath the earth's surface, the petroleum residuals generated by oil and gas producers can be upgraded to liquid fuels in the new carbon-to-liquids plants.

Commercial coal-to-liquid fuels technologies have existed for decades. Sasol, a South African company, currently provides almost 30 percent of that country's liquid fuel needs through coal conversion in the open market. Sasol was created with support from the government to decrease dependence on foreign oil, and the company quickly outgrew its need for government assistance. Embarking on a national mission to achieve energy independence can reduce the risk of supply and lower oil prices, and it also should facilitate an industrial boom, create jobs, foster new technology, enhance economic growth and establish a reliable domestic energy base on which to rebuild domestic industries for global competition.

Congressional legislation will be needed to implement the American Energy Security study, and discussions are underway with members of Congress to achieve success. The following measures are target issues.

### **Extend the \$0.50 Per Gallon Alternative Liquid Fuels Excise Tax Credit**

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, SAFETEA-LU 2005 extension, provides a \$0.50 per gallon excise tax credit for certain alternative liquid fuels, including CTL products. This incentive is set to expire in 2009, before any major new coal-to-liquids and oil shale plants (for example) can come online. Its extension through 2020 and the inclusion of oil shale products will provide "real" market incentive to future alternative liquid fuel plant developers.

### **Provide Accelerated Cost Recovery to Alternative Fuel Plant Owners**

Authorization for 100 percent expensing in the year of outlay for any alternative liquid fuel plants begun by 2020 is recommended. This will provide a substantial tax incentive to build alternative fuels manufacturing capacity, with the

government recapturing the deferred taxes in the early years of a plant's operation.

### **Incentivize Refining of Alternative Liquid Fuels**

We recommend the extension of the now temporary expensing allowance for equipment used in refining to 100 percent of any required additions to existing refineries needed to handle domestic alternative liquid fuels products (see the Energy Policy Act of 2005, or EPAct2005, § 1323). This incentive will redirect refinery owners to domestic and away from imported feedstock sources.

### **Provide Explicit U.S. Department of Energy Authority and Appropriations for Loan Guarantees**

The Energy Policy Act of 2005 establishes a loan guarantee program within the U.S. Department of Energy. However, the Office of Management and Budget's view is that the Federal Credit Reform Act of 1990 contains a requirement preventing the DOE from issuing any loan guarantees until they have an authorization, including a loan volume limitation, in an appropriations bill. It is recommended that Congress provide explicit authorization in the form of a federal loan facility to support the first approximately 100,000 barrels per day of new commercial production capacity (ten 10,000 bpd plants +/-) for coal-to-liquids, biomass-to-liquids and oil shale-to-liquids facilities. Additionally, it is recommended that Congress provide appropriations for technologies demonstration, as provided in EPAct2005.

### **Fund the Military Alternative Fuels Testing and Development Program**

The U.S. Department of Defense has a development program underway to evaluate, demonstrate and certify turbine fuels from alternative energy resources for use in tactical vehicles, aircraft and ships. Fuel sources include Fischer-Tropsch (F-T) fuels made from domestic coal, refined fuels derived from oil shale kerogen and renewable/biobased fuels. The ultimate goal is to develop a single Battlefield Use Fuel of the Future (BUFF). At the center of this development effort is a DoD fuel testing program. Congress should fully fund this critical program through FY2013. The military need is approximately \$500 million over a five to six-year period, beginning in 2007.

### **Authorize and Fund Military Purchases of Alternative Fuels Under Long-term Contract**

Total oil consumption by U.S. military forces is approximately 400,000 barrels per day. Through the development of BUFF specifications, it is believed that a substantial portion of this requirement can be met with domestically produced alternative liquid fuels. The DoD desires to enter into long-

term contracts for the purchase of alternative fuels made in the United States from domestic resources. This is part of DoD's Total Energy Development Program (TED), with a stated mission to "catalyze industry development and investment in [alternative] energy resources." Congressional support is encouraged for DoD's TED program, including extending its long-term contracting capabilities from five to as long as 25 years. Appropriate and necessary authorizations and funding should be given high priority. DoD fuel purchases under long-term contracts can help establish a foundation on which to build a new alternative fuels industry, and secure, high quality U.S.-made alternative liquid fuels will help our military.

## Eliminate the \$10 Million Cap for Tax Exempt Industrial Development Bonds

To encourage investment, certain pollution control and solid waste disposal facilities currently are not included in the \$10 million limit on tax exempt Industrial Development Bonds (IDBs). It is recommended that alternative liquid fuels production facilities be added to this list of activities having no tax exempt IDB size limits. This will lower the cost of capital to build new alternative liquid fuels processing projects and enable expansion of existing ethanol and biodiesel plants.

## Provide Regulatory Streamlining for the Production of Alternative Liquid Fuels

In order to facilitate the rapid scale-up of alternative liquid fuels production capabilities in the United States, regulatory changes are necessary. Standardizing, simplifying and expediting the permitting process for manufacturing/processing facilities, mines, agricultural operations and necessary infrastructure is crucial. Below are a few recommendations in this very important area.

- Standardize, simplify and expedite permitting and siting with joint federal, state and local processes, policies and initiatives.
- Make appropriate federal, state and local government sites available for alternative liquid fuels manufacture, including Base Realignment and Closure (BRAC) military sites.
- Exempt initial alternative liquid fuels processing facilities from New Source Review (NSR) and National Ambient Air Quality Standards (NAAQS) offset requirements.
- Encourage local leadership to modify approaches to zoning and other land use and business regulations, to accommodate the strategically important new activities of alternative energy harvest and manufacture.

- Prioritize, expand and promote the impressive reforestation work being done to dramatically accelerate the rate of tree growth by creating optimal soil conditions at reclaimed mine sites.

## Establish a Self-sustaining Government Corporation to Provide Market Risk Insurance

Congress is encouraged to establish the Strategic Energy Security Corporation (SESC), a self-funding, self-sustaining government corporation. The SESC is proposed to administer a new, "fuel-neutral," alternative liquid fuels market insurance program to protect against predatory pricing by OPEC and others. More details on the SESC initiative are provided in the American Energy Security study.

## Expand the Strategic Petroleum Reserve Program to Include Alternative Liquid Fuels Products

Stockpiling crude oil in a centralized location has its limitations. Crude oil needs to be refined to be useful. The logistics of moving SPR crude to refineries having available capacity and then transporting the refined products to locations in need is cumbersome and takes time. There are only four centrally located SPR storage sites in the United States; two in Texas and two in Louisiana. All four sites are

centrally situated on the Gulf Coast, making them vulnerable to natural disaster and also to enemy attack.

Congress should examine the feasibility of purchasing and storing "finished" alternative fuel products such as diesel fuel, jet fuel, heating oil and ethanol at a number of locations strategic dispersed throughout the United States, as an extension of the SPR program. Fischer-Tropsch wax produced from coal, biomass and perhaps even oil shale may be an ideal product for this purpose. The F-

T process is capable of making a biodegradable wax as an alternative to producing diesel and jet fuels. This wax has a very long shelf life and can be upgraded to superior quality fuels much more quickly and inexpensively than crude oil. In general, a variety of alternative fuels could be purchased by the SPR under long-term contract to control costs and to help establish a vibrant, rapidly expanding alternative fuels industry.



U.S. Senator Jim Bunning of Kentucky holds a press conference on June 22, 2006, announcing Senate Bill 3325, the "Coal-to-Liquid Fuel Promotion Act of 2006." During this announcement, Senator Bunning refers to the Act as a "three-part, comprehensive effort to create a vibrant domestic coal-to-liquid fuel market."



Congress should authorize the sale of portions of the crude oil currently in storage on the open market to fund available alternative fuels purchases.

### **Provide Incentives for Existing Ethanol Plants to Convert to Coal**

Until very recently, natural gas was the ethanol plant fuel source of choice for process heat and electricity. With the recent escalation in natural gas prices, new ethanol plants are opting for coal-firing. Like crude oil, limited domestic natural gas supplies have necessitated increasing imports of this fuel as liquefied natural gas (LNG) to produce ethanol. To promote energy efficiency and lower energy imports, Congress should consider providing for 100 percent expensing in the year of outlay for the cost of converting ethanol plants currently using natural gas to domestic coal, if the new plant is in service by 2010.

### **Provide Incentives for Enhanced Oil Recovery and Enhanced Coal Bed Methane Recovery Using CO<sub>2</sub> Captured From Alternative Fuel Plants**

The capture and use of the CO<sub>2</sub> from alternative liquid fuel plants can greatly expand domestic oil production from existing oil fields and enhance methane recovery from coal bed methane operations. To lower the barriers to expanded use of CO<sub>2</sub> injection, the following actions should be considered:

- exclusion of oil production from the Alternative Minimum Tax (AMT);
- increase the investment tax credit to 50 percent;
- provide federal royalty and severance relief until the investment in CO<sub>2</sub> injection is recovered; and
- provide access to federal and state lands for the construction of CO<sub>2</sub> pipelines.

### **Additional Recommendations**

Issues and policy options related to the prioritization and catalyzing of a new domestic alternative liquid fuels industry are extremely complex and important. The policy recommendations provided in the American Energy Security study are believed to be crucial to the success of a comprehensive national initiative for alternative fuels harvesting and manufacturing. The American Energy Security study partners are developing additional policy options for states.

For additional information regarding the American Energy Security study, please visit the partner's website at [www.americanenergysecurity.org](http://www.americanenergysecurity.org).

## **Carbon Management Southeast Regional Carbon Sequestration Partnership**

During this year, the Southern States Energy Board is completing work on Phase I of the Southeast Regional Carbon Sequestration Partnership research initiative. The two-year Phase I study utilized a regional approach to determine what options exist for sequestering carbon dioxide, should such a program be needed in the future. SECARB, which is managed by SSEB, is one of seven regional partnerships working with the U.S. Department of Energy. SECARB and the other regional partnerships work with the National Energy Technology Laboratory (NETL) to assess issues related to the capture, transport, storage and use of carbon dioxide emissions from fossil fuel sources.

The SECARB territory initially encompassed a nine-state region including the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. In March of 2004, Texas and Virginia were added to the region. In March of 2005, portions of Kentucky and West Virginia were included in the SECARB Phase II work plan.

Phase II is a four-year field verification program, with the U.S. Department of Energy providing \$14.3 million in funding and SECARB partners providing over \$5.6 million.

SECARB has completed the screening of potential sources and sinks for carbon sequestration. The findings reveal that potential sources of CO<sub>2</sub> emissions are located throughout the region, with large coal-fired power plants being the most prominent emitters. Also, the findings demonstrate that the region has numerous and diverse terrestrial and geologic sinks that could serve as the most promising sinks for sequestering CO<sub>2</sub>.

SECARB's Phase II work focuses on the most promising opportunities for geologic sequestration within the region that promote the development of a framework and infrastructure necessary for the validation and deployment of carbon sequestration technologies. Phase II refines Phase I concepts and begins to validate, through field testing, sequestration technologies and corresponding infrastructure approaches related to regulatory, permitting and outreach. The multi-partner collaborations developed during Phase I continue in Phase II.

Phase II consists of three diverse field tests broken down into phases aligned with project definition, design, implementation, operations and closeout/reporting; continued character-

ization of regional sequestration opportunities; and cross-cutting services in education and outreach, regulatory and permitting, monitoring, measurement and verification, geographical information systems and project management. SECARB will develop best practices manuals to support regional transferability and wide-scale deployment.

The field tests are:

$G_1$  - A Gulf Coast Stacked Storage Project that builds upon the Gulf Coast Carbon Center of The University of Texas Bureau of Economic Geology's experience managing the Frio Basin Project and investigates a stacked sequence of hydrocarbon and brine reservoir intervals, where enhanced oil recovery with  $CO_2$  can serve as an economic driver in establishing the  $CO_2$  infrastructure;

$G_{2-A}$  and  $G_{2-B}$  - A Coal Seam Project for validation of sequestration opportunities in the Central Appalachian Basin and the Black Warrior Basin, where  $CO_2$  enhanced coal bed methane recovery operations can add economic value and where unmineable coals can provide sequestration opportunities; and

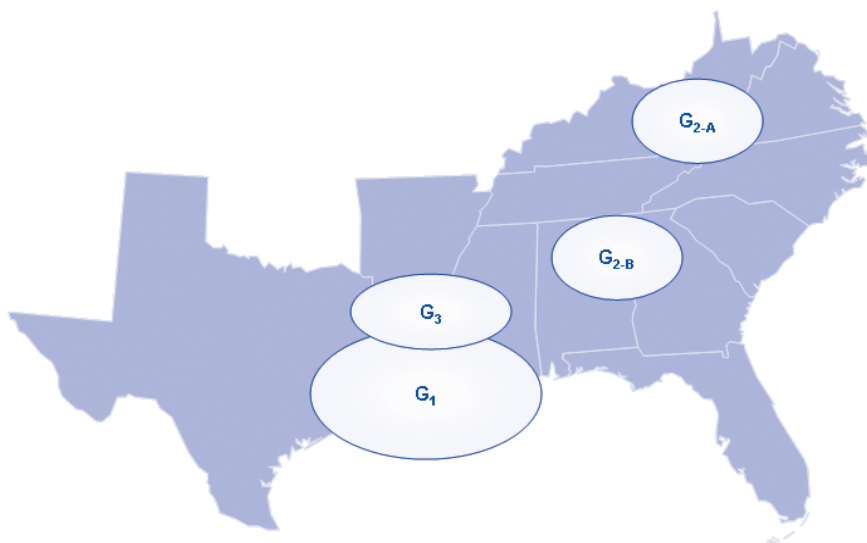
$G_3$  - A Saline Aquifer Test Center Project that focuses on validating geologic storage in close proximity to a Southern Company coal-fired power plant (part of the Electric Power Research Institute's Test Center program) located in the Mississippi Salt Basin and separated from the Gulf Coast Salt Basin by the Wiggins Arch (Field Tests  $G_1$  and  $G_3$  are located in distinctly different saline sinks).

Each field team has assumed responsibility for the technical scope of work, local education and outreach, permitting, MMV and maintaining the validation test's schedule and budget. Each team contributes new information to the continued characterization of the region. In addition, a task has been dedicated to integrating field data and filling gaps in regional characterization data sets. Data and tools developed in the continued characterization task will be incorporated into a relational database and GIS.

All three field tests, the continued characterization project and the cross-cutting functions support the FutureGen Initiative by validating technologies and identifying locations throughout the region that could support future full-scale geologic sequestration deployment opportunities. FutureGen is a highly efficient and technologically sophisticated coal-fired power plant that will produce both hydrogen and electricity and achieve near-zero emissions by utilizing carbon sequestration technologies.

Three SSEB member states, Kentucky, Texas and West Virginia, are among the seven states that submitted site proposals to the U.S. Department of Energy and the FutureGen Industrial Alliance in a competition to host the \$1 billion research facility.

To learn more about SECARB, please visit our website at [www.secarbon.org](http://www.secarbon.org).



Mr. Sean Plasynski of the National Energy Technology Laboratory, Mr. Dwight Evans of Southern Company and Mr. Ed Stephens of the Tennessee Valley Authority provided welcoming remarks to the participants (left to right). On January 18-19, 2006, SECARB partners hosted more than 70 representatives from the energy industry for the purpose of briefing them on Phase II activities and gaining support for and stakeholder involvement in the program.

# Clean Coal and Energy Technologies

The Southern States Energy Board's Committee on Clean Coal and Energy Technologies Collaboration is one of the Board's most active government/industry partnerships. Comprised of state, federal, academic, business and industry officials, the Committee pursues domestic and international programs that are intended to increase the use of coal and promotes innovative technologies that power cleaner fossil fuel systems.

During the past year, the Committee's domestic agenda focused on the education of the coal workforce of the future. The importance of coal as a resource for the southern region is apparent. For every million tons of coal produced, 130 miners are employed. Millions of dollars in severance taxes are generated across the South, and the region supports some of the lowest electric rates in the Nation. Rising coal prices are continuing to provide a strategic advantage to the economies of southern states by spawning additional businesses that diversify and improve the quality of life.

But a clear reality is that our coal industry workforce is aging. The average miner has reached 50 years of age, and more than half of the workforce will face retirement in the next five to seven years. Lack of education and training programs and no career path incentive for new miners has placed the human resources component of the industry at a precarious crossroads. Changes need to be made to modernize facilities and equipment and to entice younger workers to enter a new

mining industry that is intent on providing them incentives to careers with a future.

The Commonwealth of Kentucky met this challenge in the past year through the creation of the Kentucky Coal Academy. A model program worthy of adaptation by states across the country, the Kentucky Coal Academy will design career pathways for miners with state-of-the-art equipment; develop short-term training; assess employer needs; provide scholarships to deserving students; offer academic curricula leading to college and advanced degrees; and provide marketable and transferable skills to its students through the Kentucky Community and Technical College System. As one of its components, a Kentucky Junior Coal Academy program will begin educating and interesting high school students in their potential roles in a new U.S. coal industry. Southern States Energy Board members, including Governor Ernie Fletcher, Senator Robert Stivers and Representative Rocky Adkins were instrumental in the formation of this unique educational application in January of 2006. Former SSEB Governor's Alternate, Dr. Bill Higginbotham, is serving as the new President of the Academy.



## KENTUCKY JUNIOR COAL ACADEMY

*A part of the Kentucky Coal Academy*

**Lawrence County Schools  
Louisa, KY**

***"Working with today's youth to provide energy for tomorrow"***



Sago Mine in Upshur County, West Virginia  
Photo courtesy of the West Virginia Office of Miners' Health Safety and Training.

Of continuing importance to SSEB's Committee on Clean Coal and Energy Technologies Collaboration are coal mine safety issues. The Sago Mine disaster and other similar incidents during this year have redoubled efforts to improve safety measures so that tragedies such as these cannot occur in the future. A number of states, including West Virginia and Kentucky, have taken legislative action to provide tracking and communication devices for miners; increased evacuation training; new mine rescue teams; lifeline cables for escape; and increased training on the use of self-rescuers, among other safety measures.

The SSEB Committee on Clean Coal and Energy Technologies Collaboration also began to examine the domestic policies and technologies needed to develop an alternative oil





production industry in the southern states. Entire business and industry sectors in the region are suffering from high fuel and feedstock prices including airlines, package and food delivery, trucking, auto manufacturing and petrochemicals, among others. To survive, many American companies are building new plants offshore, along with the supporting research and development facilities, causing the loss of jobs, intellectual property and tax base. In order to reverse this trend, business and industries must be offered a long-term solution. These unprecedented risks can be

mitigated if a commitment is made to produce our own fuels.

The international activities of the Committee are conducted in cooperation with the U.S. Department of Energy's Office of Clean Energy Collaboration. This cooperative partnership examines opportunities to export coal and clean coal technologies to developing countries in cooperation with U.S. companies interested in international business. In 2002, the Southern States Energy Board and the Industrial Estate Authority of Thailand signed a Memorandum of Agreement to explore measures to improve and enhance the economic and environmental performance of Thai industrial estates. This has led to trade missions and reverse trade missions, visits to industrial estates, cooperative ventures between U.S. and Thai partners, international conferences and workshops and eco-industrial development proposals to turn waste streams into productive resources by providing solutions to environmental damage and stimulating markets for new products. The goal is the continued involvement of southern U.S. manufacturing and service industries in finding solutions to industrial problems through international business.

The Thai Federation of Industry sponsored a trade mission to the United States in May 2006, with the Southern States Energy Board serving as host for the site visits and discussions. A framework was established for a clean coal/advanced energy symposium to be conducted in Thailand later

in the year. Representatives from the Thai Department of Energy Development and Efficiency expressed their interest in a bilateral instrument with the Southern States Energy Board to promote clean coal technologies in selected manufacturing sectors in Thailand.

The General Environmental Conservation Company (GENCO) of Thailand provides waste management services to industrial firms in the Kingdom. GENCO identified gasification as one of a number of process technologies to produce electricity and other products to eliminate its current base of wastes collected from firms at its industrial estates. In cooperation with the Southern States Energy Board, GENCO plans to conduct a feasibility study to explore the option of co-firing coal with municipal and industrial wastes to produce energy and useful commodities. SSEB's goal is to identify and work with motivated American firms desiring to participate in the project and supply equipment and services.

Through the International Working Party on Fossil Fuels of the World Energy Council and the International Energy Agency, the Southern States Energy Board is examining the intellectual property issues associated with the deployment of carbon sequestration technologies. This will provide direct benefits to the international Carbon Sequestration Leadership Forum as the 21 countries involved in the Forum seek to determine ways to share carbon capture, storage, utilization and disposal technologies to curb the release of greenhouse

gases into the atmosphere. Ms. Barbara McKee of the U.S. Department of Energy chairs the International Working Party on Fossil Fuels and is a member of SSEB's Committee on Clean Coal and Energy Technologies Collaboration.



# Water for Energy

The Southern States Energy Board and the University of Tennessee continue to collaborate with the U.S. Department of Energy's National Energy Technology Laboratory on water for energy research. Energy security and diversity concerns have factored into SSEB's assessment of the energy-water interface. Emphasis is placed on regional efforts to deploy clean coal technologies, such as gasification, and the associated water needs of these technologies. Water use and water supply concerns exist within the region and will impact energy facility development along with recreational use, industrial and domestic consumption and agricultural practices. Finding suitable locations for new power plants and industrial facilities that require water and energy is a challenge for SSEB member states.

The objectives of the water for energy program include assisting scientists, engineers and decision-makers to acquire and disseminate useful water data; promoting regional water conservation and end-use efficiency by public and private users; and educating decision-makers and the public on regional water issues. Technology development and policy solutions must balance the water needs of the energy industry with other industrial, commercial and residential requirements. At the same time, we must protect the aquatic environment and continue to provide quality recreational opportunities within waters of the southern region.

## Biobased Products and Bioenergy Development

The U.S. Department of Energy's regional biomass energy program was revamped in 2003 and identified as the National Biomass (State/Regional) Partnership. It is divided into five regional partnerships, and the Southern States Energy Board is the host organization for the Southeast. Under the auspices of SSEB, the Southern States Biobased Alliance serves as the lead regional body for state and regional partnership activities. The state biomass coordinators act as the technical arm of the Alliance in determining state-specific activities and providing technical assistance at the state and local level.

## Southern Biobased Alliance

Formed in July 2001, the Southern States Biobased Alliance works in an advisory capacity to the Southern States Energy Board, addressing the development of biobased products and bioenergy within the southern region. The Alliance has developed a formal mission to provide leadership and develop strategies that will foster a biobased industry and boost rural economies in the southern states. The Alliance members are gubernatorial appointees who are state legislators representing SSEB member states and representatives of the public or private sector who are active in energy, environment,

agriculture and forestry issues. Currently, Representative John Raymond Reeves, Mississippi, and Mr. John Davies, Kentucky Division of Renewable Energy and Energy Efficiency under the Office of Energy Policy, serve as the co-chairs of the Alliance. In addition, Mr. Davies serves as the state representative for the Southeast with the National Biomass Partnership.

Upon its inception, the Alliance established goals to guide the group in building public/private partnerships that advance the economy of the region through unique state, local and industry networks. These goals provide regional leadership to the Southern States Energy Board and its member states through:

- Alliance meetings and activities that foster communication, coordination and collaboration among members to enhance development of a biobased industry in the region;
- recommendation of policies and programs that foster development of a biobased industry in the region;
- identification of strategies that stimulate markets for biobased products and technologies;
- providing electronic access to information, public forums and appropriate links to facilitate information transfer on biobased products and bioenergy; and
- advancing research, development and demonstration of biobased technologies and promoting the use of those technologies.

Key activities are focused on stimulating markets for biobased products and bioenergy. Learning about policies and incentives in other states, both in the South and in other regions, is integral to determining the proper approaches that will stimulate economic development.

In conjunction with the regional steering committee meeting, the Southern States Biobased Alliance sponsored a workshop in July 2005 for participants to examine the impact of biomass-related policies and incentives. The impetus of the workshop was the completion of a study funded through the National Energy Technology Laboratory entitled *An Assessment of Biomass-related State Programs and Policies*. This analysis considers a broad range of policies and incentives throughout the United States and examines their impact on the bioenergy and biobased product industry.

A number of national and regional organizations cosponsored the workshop resulting in a broad cross-section of stakeholder representatives participating in a dynamic forum, exchanging ideas and sharing practical experiences. Attendees included state legislators, state energy office directors, state officials, industry representatives, foresters, farmers and academia.

The goal of the forum was to stimulate discussion among state government policy-makers and other biomass stakeholders to collaborate on the development and implementation of biomass-related incentives. States are leading the way to foster and stimulate markets for bioenergy and biofuels. The

dialogue among the regional leaders participating in the forum presented many observations related to policies and incentives.

One of the highlights of the workshop was a tour of East Kentucky Power Cooperative's Bavarian Landfill Plant in Boone County on July 13. This plant is the first in Kentucky to produce electricity from methane gas from decaying municipal waste. The U.S. Environmental Protection Agency (EPA) estimates as many as 500 additional landfills could cost-effectively tap methane as an energy source, producing enough electricity to power one million homes across the country.

Economic circumstances and development goals vary among southern states. Meanwhile, rural economies across the South suffer from slowed production and a decrease in the value of farm crops. At the same time, our country's demand for energy and continuing increase and dependency on foreign energy sources is jeopardizing our economic security. The South has 214 million acres of forest land, primarily owned by private landowners, and over one-third of America's farmland. Our region has potential for renewable, expandable and sustainable sources of energy as well as chemical feedstocks.

## Southeastern State/Regional Biomass Partnership

The regional biomass energy program was created by Congress in 1983 under the Energy and Water Development Appropriations bills PL 97-88 and PL 98-50. The enabling legislation instructed the U.S. Department of Energy to design its national program to work with states on a regional basis, taking into account regional biomass resources and energy needs. The five regional programs, working with representatives in all 50 states, Puerto Rico, the U.S. Virgin Islands and the District of Columbia hosted primarily by regional governors' organizations, are recognized nationally for their combined experience related to biomass technologies and policies.

In 2002, DOE integrated all the biomass activities under the Office of the Biomass Program (OBP). As part of the reorganization, the Southern States Energy Board, the Coalition of Northeastern Governors Policy Research Center, Inc., the Council of Great Lakes Governors, the Western Governors' Association and DOE developed objectives for a State/Regional Biomass Partnership that redefines the former DOE Regional Biomass Energy Program. The goal of the Partnership is to work cooperatively

with the DOE/OBP to facilitate the increased use of bioenergy and biobased products through coordinated federal, regional and state outreach, education and technical assistance programs.

Similar to all the regional partnerships, the Southeastern Biomass State/Regional Partnership is structured to provide state and regional grants to accomplish specific goals related to education, outreach and technical assistance. As before, the Southeastern Partnership includes Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, Puerto Rico, South Carolina, U.S. Virgin Islands, Virginia and West Virginia.

In support of the goals of the National Biomass State/Regional Partnership, a technology matrix is being prepared for the national Partnership and states. Listings of the following will be developed as part of the matrix:

- major types of biomass feedstocks;
- potential energy end-use and applications;
- potential biofuel products; and
- biomass conversion technologies that are commercially available.

The technology matrix will allow users to match end-use applications and biomass feedstocks with specific characteristics to appropriate conversion technologies. Ultimately, this will increase bioenergy development intensity.

In January 2006, the Southeastern State/Regional Biomass Partnership met jointly with the Northeast region. The purpose of this interregional activity was to exchange ideas and lend expertise among states and regions.

A number of state grants were awarded during 2005 to continue outreach and education on biomass at the state and local level. Some state projects are listed below.

**Alabama** is developing a liquid biofuels plan that will increase the biofuels awareness and knowledge base of state policy-makers and serve as a guide for future state

investment in the development of the biofuels industry in Alabama.



Southern States Biobased Alliance interim co-chairs, Representative John Raymond Reeves of Mississippi (right) and Mr. John Davies of the Kentucky Division of Energy Efficiency and Renewable Energy (left), provide opening remarks during a July 2005 forum entitled "Building Bioenergy and Biobased Industries: A Workshop on Developing Effective Biomass-Related Policies and Incentives."



**Arkansas** is organizing and conducting a workshop on energy and value-added products from biomass as it relates to biomass utilization in the state and the region.

**Florida** is creating a portfolio of biomass resource maps and identifying installed and potential biomass energy production capacity in the state. Additionally, the Florida Energy Office seeks to create a Florida Biomass Network that will assist with strategic planning for its biomass program and provide advice on specific biomass projects in the state.

**Georgia** is forming a Biomass Task Force that will “asses the state of the industry” including research, development and demonstration as well as commercialization efforts to develop a strategic “roadmap” for future biomass development in the state.

**Kentucky** is working with County Extension agents in a process that will result in the location, development and distribution of decision aids that will allow their clientele to reduce energy consumption, consider alternative energy sources and receive guidance on grant applications.

**Louisiana** is documenting biomass use and potential energy in the state for stakeholders who share an interest in developing efficient energy systems for the economies of Louisiana.

**Missouri** is investigating the procurement and marketing strategies that industries based on crop residue and energy crops can utilize with a focus that will provide a unique perspective that may be applied to all bio-processors of new agricultural biomass products and technologies.

**North Carolina** will facilitate permanent establishment of the North Carolina Biomass Council to provide consultation to the North Carolina Energy Policy Council, the State Energy Office and the North Carolina General Assembly on implementation of bioenergy studies and demonstration

projects through the establishment of a biomass deployment roadmap for the state.

**Puerto Rico** is developing market data on availability, quality and cost of biomass solid waste feedstock, determining Puerto Rican market applications, conducting engineering analysis for scale-up and for economic feasibility of various biomass energy technologies and building an information base on feedstock versatility, with the objective of reserving a percentage of electric power generation and diesel fuel consumption for electricity and biodiesel produced from local applications.

**South Carolina** is providing public and private sector decision-makers with economic and environmental metrics needed to foster production of energy in South Carolina from waste water sewage, poultry waste and waste grease.

**Tennessee** is analyzing economic benefits of reducing petroleum imports and moving to a more biobased fuel system to help Tennesseans understand how biofuels have a positive impact on the state.

**U.S. Virgin Islands** is assessing the feasibility of collection and cleaning of the landfill biogas to insure the greatest possible use of available biogas resources in the territory.

**Virginia** will conduct workshops that will increase awareness and understanding of small-scale biodiesel production as well as the opportunities, hazards and considerations of using biodiesel.

**West Virginia** is developing a conceptual biorefinery and configurations to lay a foundation for detailed economic analysis of the feasibility of a biorefinery in the state.

Other state projects are in the planning stages to receive funding through the Southeastern State/Regional Biomass Partnership. At the time of the printing of the *Annual Report*, proposed projects are under review.



## Southeast Regional Biomass Energy Feedstock Partnership

The President's new biofuels initiative calls for resources intended to enable ethanol produced from sources other than corn starch to become cost competitive by 2012. This will require lowering the costs of feedstocks as well as driving advances in conversion technologies. The Southeast holds enormous potential to develop and advance lignocellulosic biomass through its on-going and future research.

SSEB is working with the Sun Grant Institute, DOE, U.S. Department of

Agriculture (USDA), The National Biomass Partnership and others in leading a series of regional biomass energy feedstock partnership workshops. This initiative is part of the DOE/USDA research to advance the development of lignocellulosic biomass and a biorefinery industry. The first of these regional workshops was held in Knoxville, Tennessee, on May 10-12, 2006, with the intent of organizing a Southeast Regional Biomass Energy Feedstock Center.

The Southeast steering committee identified a number of initial participants to begin strategizing how to sustain an on-going dialogue and technical transfer of research in the region. Through this partnership, a “virtual” feedstock center is envisioned as a means to share research and policy needs as the Southeast focuses on fostering a “biorefinery” industry. In order to develop this industry, the use of straw, grasses and forest product residues and resources has high potential as biomass energy feedstocks in the southern states.

A recent DOE/USDA study determined that the United States has the potential to supply the estimated one billion tons of feedstocks needed annually to achieve the DOE goal of replacing 30 percent of current U.S. petroleum transportation fuel consumption with renewable biomass. By organizing a partnership of this type, research can begin focusing on the processing of these high cellulose and hemicellulose materials, which is critical and a major challenge to the development of efficient biorefineries.

Organizing regional partnerships is the best approach to evaluating specific regional barriers, both technical and non-technical. The Southeast Biomass Energy Feedstock Partnership can accelerate advancing technology, policy analysis and investment in the region. With a growing decline in the production capacity of the paper industry and traditional farm crops, the Southeast is positioned to contribute significantly to achieving national goals, thereby increasing America’s energy and economic security.

SSEB maintains an active website for the Southeastern Biomass State/Regional Partnership ([www.serbep.org](http://www.serbep.org)).

## Environmental Technology Development, Deployment and Training

The Southern States Energy Board, as a founding member of the Interstate Technology and Regulatory Council (ITRC) in 1995, continues to promote the various components of the ITRC program and ensure that SSEB member organizations such as state energy offices are taking part in and taking advantage of the low-cost, first-rate training and documents offered by ITRC. The ITRC now has over 65 documents available for use at no charge to regulators, technology experts and vendors, academicians and others. The most recent releases include three guidance documents entitled *Property Revitalization - Lessons Learned from BRAC and Brownfields*; *The Use of Direct Push Well Technology for Long-term Environmental Monitoring in Groundwater Investigations*; and *Real-time Measurement of Radionuclides in Soil: Technology and Case Studies*. Currently over 15 teams of experts are working on specific environmental remediation issues to help to ease the transition from technological solution to practical implementation throughout the states. Some of the most recent topics taken on by

ITRC teams include arsenic in groundwater, methyl tertiary-butyl ether, more commonly referred to as MTBE, and other fuel oxygenates and vapor intrusion.

ITRC consists of representatives from 43 states that work to eliminate barriers and reduce compliance costs, making it easier to use new technologies and helping states maximize resources. The ITRC fosters better decision-making within state environmental agencies and enhances the understanding of these technologies both within public communities and the environmental industry through free or low-cost informational and training resources. Environmental topics of interest nationwide are addressed by teams of experts formed and supported through the ITRC support system. These teams develop state-of-the-art regulatory guidance documents, training sessions and other technical publications aimed at various segments of the public, private and regulatory sectors. Currently, training is conducted in over 30 topics either as internet-based training or in classroom settings.

ITRC continues to build the environmental community's ability to expedite quality decision-making while protecting human health and the environment. Globally, almost 30,000 participants worldwide have been trained using ITRC developed training. During this fiscal year, training opportunities have been afforded to almost 3,000 participants from states represented by the Southern States Energy Board. As the ITRC network continues to grow, knowledge is enhanced thereby easing implementation of environmental remediation activity throughout the Nation.

## Pipeline Safety and Infrastructure High Consequence Areas for Natural Gas Transmission Lines

In accordance with the 2002 Pipeline Safety Improvement Act, natural gas transmission pipeline operators are required to identify and more frequently inspect “high consequence areas,” where incidents or accidents could have disastrous effects for local communities. The Act also requires pipeline operators to communicate with emergency planners and local first responders to provide a better understanding of the potential consequences if a pipeline is compromised and develop a plan of action to mitigate damages and impacts in the community.

During 2004 and 2005, the U.S. Department of Transportation, the National Association of State Fire Marshals and the Southern States Energy Board partnered to encourage pipeline operators and emergency responders to interact regarding the special challenges faced by local communities where large populations and pipelines intersect. In the past, pipelines often were built at the outskirts of a community, enabling a more isolated response if an incident occurred. But today, numerous communities have expanded beyond the original proportions

expected by planners, creating a situation where many pipelines intersect, transcend and encompass developed areas.

The program created by the partners was pilot tested in Alabama, Arizona, Kentucky and Louisiana. A textbook, instructor's guide and DVD on pipeline emergencies were developed by the Partnership to provide a curriculum for emergency responders from public safety and industrial organizations. The Partnership continues to distribute and share this curriculum in training sessions with fire service personnel throughout the country.

## Liquefied Natural Gas

The Electric Power Research Institute announced during 2004 that 55 new liquefied natural gas terminals are projected, proposed, planned or scheduled to be built in the United States, ushering in a greater quantity of imported fuel that will be expected to play a major role in the Nation's economy. Due to the existing infrastructure and the availability of deep ports in the South, it is projected that the majority will be located in our region.

In light of these developments, and in accordance with its Partnership for Pipeline Safety with the National Association of State Fire Marshals and the Southern States Energy Board, the U.S. Department of Transportation identified the need for a risk assessment of safety and security issues regarding the vulnerability of and potential homeland security threats to liquefied natural gas technologies and facilities. Four of the six existing LNG terminals in the United States are located in Southern States Energy Board member jurisdictions.

A comprehensive safety and security planning tool for LNG facilities was designed by the partnership and augmented by additional comprehensive training materials. Briefings for state emergency planners, local fire service officials and LNG facility representatives were pilot tested and a training program devised in LNG basics and safety, communications, security measures, local issues based on topography and emergency response, etc. A community outreach program

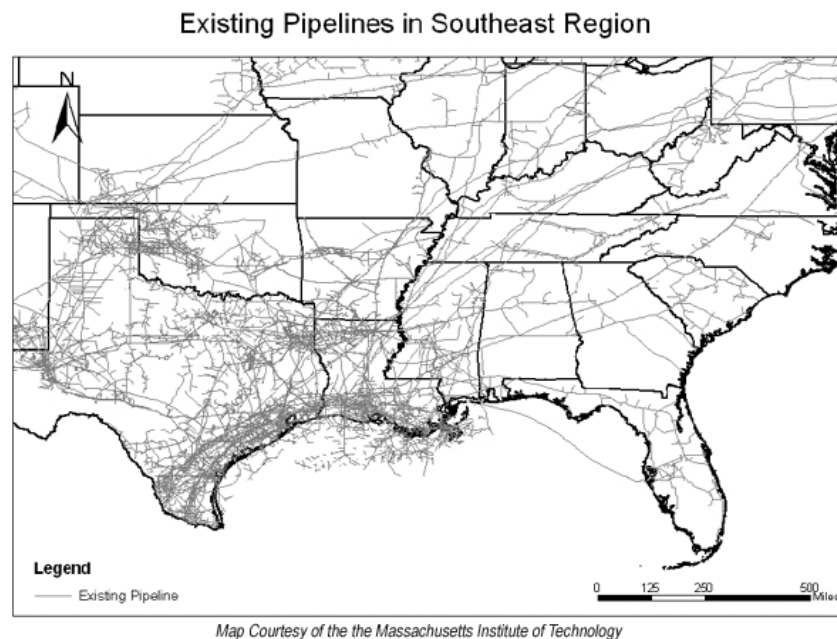
targeted state and local legislators, businesses, civic and opinion leaders. Local fire service leaders and state emergency responders were trained to use and teach from the pipeline emergencies materials that have been developed and are mentioned above. Following the pilot testing phase, the project was expanded to other regions and facilities so that new and emerging terminals can share in the benefits of the program.

## Georgia Study Committee on Liquefied Natural Gas Infrastructure, Security and Reliability

Passed during Georgia's 2005 legislative session, House Resolution 92 established a bipartisan Joint House and Senate Study Committee on liquefied natural gas infrastructure. While the committee's original intent was to focus on LNG infra-

structure, its purview quickly expanded to cover natural gas delivery, transportation, security and reliability across the state and throughout the Southeast. During a meeting in September of 2005, the Joint Study Committee established an Advisory Committee comprised of industry and organizations specializing in LNG-related issues. This Advisory Committee was chaired by

Representative Harry Geisinger of Georgia, who also serves as an Executive Committee member on the Southern States Energy Board. Other members of the Advisory Committee were representatives from Atlanta Gas Light, SCANA, Southern Natural Gas, two public service commissioners, Georgia Natural Gas, Georgia Power, British Petroleum and the Southern States Energy Board, among many others. In total, the Advisory Committee was composed of twenty-five voting members, two of which represented the SSEB. The Advisory Committee held four meetings, and the Joint Study Committee held two meetings. The Advisory Committee presented three recommendations to the Joint Study Committee, all of which were adopted. These included 1) introducing a resolution supporting offshore inventory; 2) encouraging the Georgia Public Service Commission (PSC) to allow AGL





Resources to seek long-term contracts; and 3) discouraging additional statutes on cost recovery. Adoption of these recommendations resulted in the passage of Senate Bill 209, which amends the Official Code of Georgia by allowing the Georgia PSC 90 days after a hearing to issue a commission order regarding a gas supply plan or adjustment factors filed by a gas utility. If the Georgia PSC does not respond, positively or negatively, within this time period, the plan or adjustment is considered approved by operation of law.

## Radioactive Materials: Emergency Response and Transportation Planning High-level Radioactive Waste Transportation

With the ever-increasing focus on nuclear power, the Southern States Energy Board's Radioactive Materials Transportation Committee continues to be at the forefront of shaping policy and making decisions related to best practices for the safe, efficient and effective transport and storage of the Nation's spent fuel and high-level radioactive waste. Furthermore, the Committee, whose membership includes regional, gubernatorially-appointed state emergency response planners, radiological health professionals and other state agency officials, is engaged with the U.S. Department of Energy's Office of Civilian Radioactive Waste Management (OCRWM) to address specific issues relevant to the development of the first federally designated repository for spent fuel and high-level radioactive waste, known as Yucca Mountain, located approximately 100 miles north of Las Vegas, Nevada.



A Yucca Mountain Project scientist tests for water movement in rock inside Yucca Mountain.  
Photo courtesy of the U.S. Department of Energy.

Throughout the past year, the Committee has been active in involving Board members in decisions surrounding nuclear issues. In October 2005, the Committee co-sponsored, with the National Conference of State Legislatures, a Yucca Mountain Tour and Briefing designed

to specifically inform and engage state legislators about the proposed repository. The Board was represented by legislators from Arkansas, Florida, Georgia, Maryland, Mississippi and Missouri. The Committee has provided additional opportunities for state involvement through its ongoing participation in the DOE Technical External Coordination Working Group meetings, which are designed to facilitate dialogue between DOE and interested parties regarding radioactive waste transportation. Through this endeavor, SSEB staff, as well as representatives from the states of Alabama, Arkansas, Florida, Louisiana, North Carolina, South Carolina, Tennessee and Texas, interact with federal officials and participate in topic groups related to security issues, shipment routing and state funding.

In other activities, the Committee is in the process of updating the SSEB *Spent Fuel and High-Level Radioactive Waste Transportation Handbook*, which acts as a reference guide for the southern states to use when dealing with nuclear waste and its transportation.

## Transuranic Waste Transportation

For the past 17 years, the Southern States Energy Board has maintained a cooperative agreement with the U.S. Department of Energy's Carlsbad Field Office to develop policies and procedures towards the aim of safely transporting shipments of transuranic



Drums of transuranic waste are stacked in a disposal room where salt will eventually flow and permanently encapsulate the containers.  
Photo courtesy of the U.S. Department of Energy.

(TRU) waste to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. The planning arm of SSEB responsible for implementing the task is its Transuranic Waste Transportation Working Group. The Working Group representatives are gubernatorial appointees each specializing in an area of expertise such as transportation planning, radiological health or emergency response. The current roster of states participating on this

committee are Alabama, Arkansas, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

## Foreign Research Reactor Spent Nuclear Fuel

The U.S. Department of Energy has partnered with the Southern States Energy Board since 1994 to safely transport foreign research reactor spent nuclear fuel from countries abroad to both the Savannah River Site and the Idaho National Laboratory (INL). The return program is a part of the U.S. government's non-proliferation policy to ensure the material will not be diverted into weapons of mass destruction. The origin of this policy dates back to the Atoms for Peace Program in the 1950's, during which the United States agreed to take back foreign research reactor spent nuclear fuel which was loaned to foreign nations to promote peaceful applications of nuclear energy.

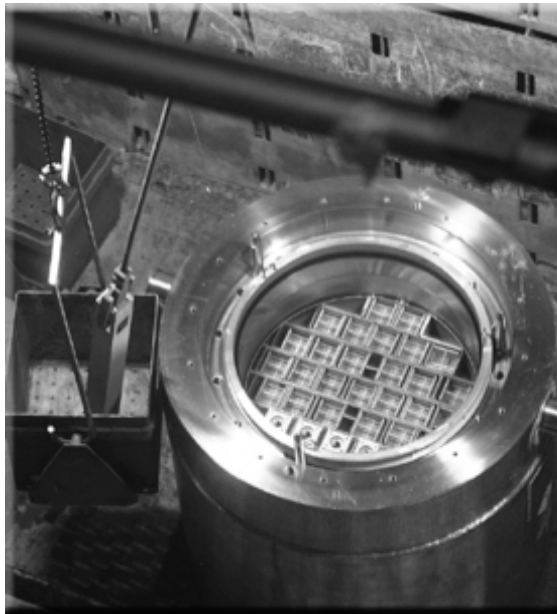
SSEB's involvement in the program formalized from the creation of an ad hoc committee to assist in the transportation planning for two urgent relief shipments of foreign spent fuel. After the successful completion of these shipments, the Department adopted their official policy concerning the return of these materials which led to the development of SSEB's Foreign Research Reactor Spent Nuclear Fuel Transportation Working Group and the Cross-Country Transportation Working Group (CCTWG).

Since their formation, these committees have assisted the transportation planning process by informing their state agencies and local officials about the program, coordinating with the shippers and state officials to develop a transportation plan and identifying first responder needs. DOE is in its tenth year of the 13-year return program and relies heavily on the efforts of the SSEB committees to implement detail-oriented planning for safe and secure transport.

Shipments of this material are conducted by the modes of highway or rail. The majority of the shipments enter the United States via the southern region and are stored at SRS or INL depending on the fuel type. If the fuel must be shipped cross-country to Idaho, the CCTWG coordinates with DOE to develop a transportation plan for movement from SRS to INL. SSEB membership in the CCTWG is composed of the states of Georgia, Kentucky, South Carolina and Tennessee.

These states are a part of the transportation corridor for DOE's primary and alternate routes.

To date 34 shipments have been received at the Savannah River Site, 28 of which have entered the United States through the Naval Weapons Station Charleston in Charleston, South Carolina. Throughout the DOE complex, the transportation of foreign fuel has been widely recognized as a model program for federal/state collaboration. SSEB's participation in this campaign through its member states has laid the foundation for conducting shipments in a safe and uneventful manner.



Foreign Spent Nuclear Fuel being removed from a shipping cask, resting at the bottom of a water-filled basin at the Savannah River Site.  
Photo courtesy of the U.S. Department of Energy.

To assist with preparation for these shipments, SSEB issues subgrants in excess of \$1 million per year to states along the initial shipping corridor from the SRS in Aiken, South Carolina, to WIPP. This funding supports equipment purchases, emergency response preparedness activities, public outreach programs, shipment tracking and other planning activities in each state. The concept of regional transportation planning has been and continues to be the factor behind the success of this program. In this spirit, the Working Group assisted DOE in selecting an alternate transportation route post Hurricane Katrina to alleviate the depleted resources of Alabama, Mississippi and Louisiana. By working cooperatively, the

southern states were able to divert the shipments along interstates in Georgia, Tennessee, and Arkansas before reconnecting with the primary route in Texas. In early 2006, the primary Interstate-20 corridor was re-opened, and 165 shipments are expected to traverse the region during this calendar year.

The WIPP facility has received over 4,555 shipments of contact-handled (CH) transuranic waste since opening on March 26, 1999. SRS, which began shipping in 2001, has made over 600 shipments and is steadily approaching one million miles of highway transport. Currently SRS sends approximately four to six TRU shipments per week to WIPP. The Oak Ridge National Laboratory, another major DOE laboratory in the South, could begin shipping CH-TRU waste towards the end of the year. In addition, ORNL and SRS will begin shipping remote-handled (RH) TRU waste in early 2007.

In addition to planning efforts for major DOE laboratories, the TRU Working Group has facilitated transportation of the waste from DOE's Small Quantity Sites (SQS) as well. Three SQS, which are located in the northeastern section of the United States, led to the incorporation of Maryland, Virginia and West Virginia into the TRU Working Group.

Transuranic waste from the Knolls Atomic Power Laboratory and Separation Process Research Unit in upper state New York and the Bettis Atomic Power Laboratory in Pennsylvania will utilize transportation routes through the three southern states. SSEB issued subgrants to each state in the amount of \$150 thousand per year to initiate training programs and preparedness activities in anticipation of the shipping campaign.

## Southern Emergency Response Council

Formed in 1972, the Southern Emergency Response Council (SERC) exists as a formalized emergency response agreement among the southern region to respond in case of a radiological incident. SERC representation is comprised of the 14 signatory states of the Southern Agreement for Mutual State Radiological Assistance, including Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

The Southern Agreement for Mutual State Radiological Assistance is implemented through the Southern Mutual Radiation Assistance Plan (SMRAP). Created as a blueprint for coordinating radiological emergency assistance capabilities among participating states in the southern region, SERC representatives review, revise and administer SMRAP on an annual basis to reflect changes in state emergency response capabilities and equipment. This document outlines the mutual aid agreement, the implementation process, emergency response contacts and available state resources.

An annual SERC meeting is held by SSEB to provide members with a forum to discuss matters related to SMRAP. Furthermore, SSEB operates as the regional coordinator for the testing of SMRAP activation procedures during joint power plant exercises between the states. The group convened in San Diego, California, for the 2006 meeting. The major topic of discussion was how to integrate the SMRAP information with data maintained by states' Department of Homeland Security.

## Regional Recycling Market Development

The Southern States Waste Management Coalition was created by resolution of the Southern States Energy Board in 1992. Areas of interest include waste minimization, source reduction, recycling, composting, waste to energy, land filling and re-fill/re-use.

In cooperation with the U.S. Environmental Protection Agency's Region IV office, the Coalition launched the Recycle Guys campaign in 2001. Created in 1997 by the South Carolina Department of Health and Environmental Control, the Recycle

Guys are animated characters featured in a series of public service announcements (PSAs) to promote recycling and energy conservation. Their message is conveyed in a variety of video clips and radio spots.

During Phase I of this program, the states of Alabama, Florida, Georgia, Kentucky, Mississippi and Tennessee were awarded funding through the Southern States Energy Board to adopt the existing South Carolina Recycle Guys model by purchasing three public service announcements. Phase II of the Recycle Guys campaign began in 2003 and was extended through December 2006. Participants include the eight EPA Region IV states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. The current funding for Phase II of the regional campaign is used to strengthen the state campaigns by purchasing cable television air time for the Recycle Guys PSAs adopted during Phase I, purchasing additional Recycle Guys PSAs or financing other Recycle Guys promotional activities identified by the state Recycle Guys campaign coordinators. The Recycle Guys campaign continues its recognition as a key component to the region's public and political awareness activities. Outside the SSEB region, several states, communities and universities have adopted the campaign. Further, the South Carolina Department of Health and Environmental Control reports that they have sent educational materials for distribution to recycling coordinators in the countries of England and Ireland.

In light of budget and travel restrictions within state and local governments, a portion of the Phase II funding is allocated to travel



The Recycle Guys appear in a series of public service announcements promoting recycling and energy conservation. Graphic courtesy of the South Carolina Department of Health and Environmental Control

reimbursement awards. These awards are necessary to obtain state and local officials' involvement in important national and regional recycling meetings.

## Electric Utility Program

Electric utility customers are experiencing some of the largest price increases in decades. This is due in part to the rising cost of fuels and the expiration of rate caps in states that have chosen to operate in a competitive market. For a number of years, the electric utility industry has experienced dramatic changes in the way they conduct business. Today, the utility industry is a blend of competition and regulation. Three of the member states of the SSEB, along with a number of other states nationally, are operating in a



competitive retail market. The remainder of the states has continued in a regulated rate environment.

The Energy Policy Act of 2005 enacted changes in the electric utilities industry. Mandatory and enforceable reliability rules now reside with the federal regulatory body as opposed to states. While states have the authority for siting transmission infrastructure, the federal government can authorize the siting if it is not done in a timely manner. With the broadened responsibilities at the Federal Energy Regulatory Commission, there appears to be increasing movement toward regionalization.

The Electric Utility Task Force, composed of Southern States Energy Board members, was established in 1997. The Task Force provides a regional forum for the southern states to exchange knowledge and ideas on an ever changing electric utility industry. SSEB's Vice Chairman, Senator John C. Watkins of Virginia, and Dr. Patrick R. Esposito, West Virginia Energy Advisor and Governor Joe Manchin's Alternate to the Board, serve as co-chairs of the Task Force.

## Energy and Environment Legislation

The Southern States Energy Board's Energy and Environmental Legislative Digest is an annual publication, which highlights legislative trends in the South. For more than 20 years, SSEB has published the Digest as a research tool and reference guide for state legislators, their staffs and industry to find, develop and refine laws in their respective states and territories.

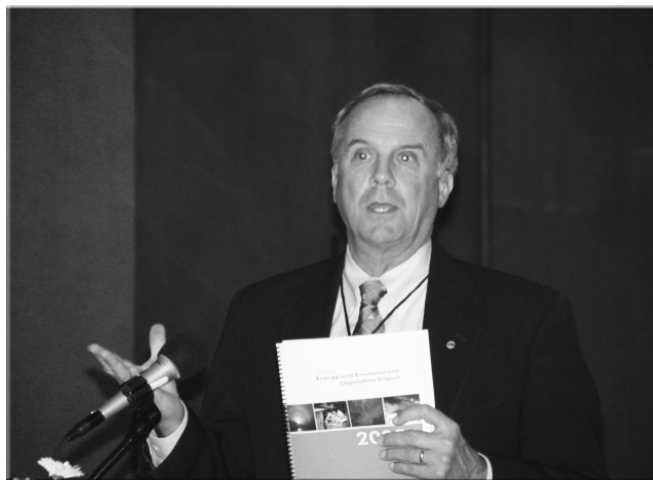
This year's Digest was redesigned to provide the Board with a more useful reference document for their future legislative endeavors. This new design highlights specific issue areas that held particular significance during this current legislative session. Additionally, the document still maintains its original form in referencing passed significant energy and environmental-related legislation in the southern states.

During 2006, SSEB members signed more than 500 energy and environmental bills into law. Energy-related legislation focused primarily on coal, fuel issues and utilities. Environmental measures addressed emergency management, eminent domain and land management and conservation. Legislation in the South reflects a deep commitment by policymakers to protecting our environment and ensuring safe, reliable and efficient energy for this region.

## Industry Partnerships

The Southern States Energy Board works closely in partnership with its Associate Members to foster economic development in the southern region. Founded in 1984, the Associate Members represent the region's leading energy and technology providers and contribute invaluable expertise on the economic and social implication of federal and state

energy and environmental policies. These activities are integral to providing a balanced and responsible approach to environmental regulation that is economical and efficient.



During a briefing to legislative members of the Board, Senator John C. Watkins of Virginia presents legislative highlights and trends from the SSEB member states' 2005 sessions. Senator Watkins serves as Vice-Chairman of the Board.

During this past year, the Associate Members discussed the challenges and possible solutions of implementing the Energy Policy Act of 2005. The Associate Members also have addressed matters related to electric utility issues such as the re-emergence of the nuclear industry and grid modernization; state responses to energy emergencies; energy security; low-income home energy assistance; air quality; carbon management; natural gas supply and infrastructure; water for energy; and state energy and environmental legislation.

## Associate Members

AGL Resources  
American Electric Power  
Association of American Railroads  
BP America, Incorporated  
Center for Energy and Economic Development  
ChevronTexaco Corporation  
Composite Technology Corporation  
Dominion  
East Kentucky Power Cooperative  
Edison Electric Institute  
Entergy Services  
Florida Power & Light Company  
National Coal Council  
National Mining Association  
Nuclear Energy Institute  
Old Dominion Electric Cooperative  
Peabody Energy  
Praxair, Incorporated  
Progress Energy  
Rentech, Incorporated  
Santee Cooper  
SCANA  
Southern Company (The)  
TECO Energy, Inc.  
TXU Corporation  
Tennessee Valley Authority

# Sources of Support

Core funding for the Board comes from the appropriations of its 18 member jurisdictions. Each member's share of support is determined by a formula written into the original Compact. The formula uses relative state population, per capita income and equal shares as factors. The Board has not requested an increase in state appropriations since 1987.

The Board also is authorized to accept funds from any state, federal agency, interstate agency, institution, person, firm or corporation provided those funds are used for the Board's purposes and functions. This year, additional support was received for special projects from research grants, cooperative agreements and contracts from the U.S. Army Tank-automotive and Armaments Command's Alion Science and Technology Corporation, U.S. Department of Agriculture, U.S. Department of Energy, U.S. Department of Transportation, U.S. Environmental Protection Agency and various other funding sources.

In addition, SSEB maintains an Associate Members program comprised of industry partners who provide an annual contribution to the Board. Membership includes organizations from the non-governmental sector, such as corporations, trade associations and public advocacy groups. The Associate Members program provides an opportunity for public officials and industry representatives to exchange ideas, define objectives and advance energy and environmental planning to improve and enhance the South's well-being.

Alabama .....	\$32,572
Arkansas .....	\$31,027
Florida .....	\$47,212
Georgia .....	\$35,782
Kentucky .....	\$32,197
Louisiana .....	\$33,817
Maryland .....	\$37,192
Mississippi .....	\$29,077
Missouri .....	\$36,247
North Carolina .....	\$37,042
Oklahoma .....	\$32,512
Puerto Rico .....	\$25,597
South Carolina .....	\$31,372
Tennessee .....	\$34,267
Texas .....	\$55,402
U.S. Virgin Islands .....	\$25,297
Virginia .....	\$38,362
West Virginia .....	\$28,732



# Selected Reports & Publications

## Energy and Environment Information

Annually, numerous requests for specific technical and policy information occur from SSEB members, state and federal government officials, legislators and other parties, including the general public. SSEB provides direct technical and analytical support to its constituents on a variety of energy and environmental issues facing the region.

SSEB also maintains a website, accessible at [www.sseb.org](http://www.sseb.org), that serves as a primary link to energy and environmental resources on the internet. Visitors can quickly link to a variety of data and download the latest SSEB publications. A list of SSEB's frequently requested publications are provided on the following page.



## Selected Reports & Publications

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***American Energy Security Study.*** July 2006.

This study provides an approach for America to establish energy security and independence through the production of alternative oil and liquid fuels from our vast domestic resources that include coal, biomass and oil shale. The study also emphasizes the need for improved domestic enhanced oil recovery programs using carbon dioxide, increased voluntary transportation fuel efficiency and sensible energy conservation.

***Annual Report 2006.*** July 2006.

This report contains a statement by SSEB Chairman Ernie Fletcher, Governor of Kentucky, updates on SSEB programs and activities, Board members and staff listing.

***An Assessment of Biomass-related State Programs and Policies.*** July 2005.

The analysis considers a broad range of policies and incentives throughout the United States and examines their impact on the bioenergy and biobased product industry. This study was funded by the National Energy Technology Laboratory.

***Assessment of Opportunities to Co-locate Ethanol-from-Cellulose Plants at Coal-Fueled Power Plants in the Southeastern U.S.*** July 2002.

Co-locating ethanol-from-cellulose plants near coal-fired power plant projects can result in advantages for both facilities. This assessment provides a list of plants and highlights important siting criteria.

***Coal: The Indispensable Energy Resource, a Compendium of Vital Information About Coal and the Southern Region.*** September 1997.

This special report assesses the coal industry's presence and contribution to the southern region so that policy-makers can utilize the information in assessing the growth of their state's economy.

***Coal, Clean Coal Technology and Advanced Power Systems: U.S. Opportunities in Brazil.*** September 1999.

The U.S.-Brazil Coal and Clean Coal Technology Export Package (1) identifies coal and clean coal technology needs for Brazil; (2) summarizes actions that have been taken, are planned or are suggested to position U.S. companies to win projects; and (3) provides points-of-contact and other information that may be of value to companies interested in positioning themselves to sell goods and services to the Brazilian coal and power industries. The compilation of information and ideas is a resource for companies to develop their individual Brazilian marketing strategies.

***Coal Regulatory Legislation in the Southern States: 1995-2003.*** September 2003.

SSEB member states' regulations on the utilization of our coal resources are detailed in this summary document. Included are brief descriptions of laws enacted with regard to coal and minerals in the southern states during the 1995-2003 legislative sessions. This list is requested frequently from agencies that develop legislation affecting the industrial use of coal and the regulation of environmental quality within their states.

***Compendium of Energy Task Forces in the Southern States.*** January 2002.

This is an ongoing compilation of information on the energy task forces in the southern region. It includes reports prepared by these task forces, as well as executive orders, press releases and meeting summaries.

***Economic Benefits of Recycling in the Southern States.*** August 1996.

The Southern States Waste Management Coalition initiated this study on the economic activity associated with recycling in the South. It provides information that can be used to promote investment in the regional recycling industry. Analysis considers the employment and value-added by processing materials recovered from the municipal solid waste stream and using these materials in manufacturing.

***Energy and Environment Legislative Digest 2006.*** July 2006.

The legislative digest is an annual synopsis compilation of representative energy and environmental quality legislation enacted by Southern States Energy Board member jurisdictions. This edition summarizes the laws from the 2006 legislative sessions and includes an introduction by John C. Watkins, Senator of Virginia and SSEB Vice-Chairman.

***Energy Offices in the South.*** December 2001.

The organizational structure, function and scope of state energy offices in the southern region are provided in this 2001 report. The information proves useful to southern lawmakers, their staffs and all parties interested in energy matters in the South.



***Energy Policy in the South - Integrating Energy, Environment, and Economic Development: A Balanced and Comprehensive Approach.*** September 2001.

Prepared for the Southern Governors' Task Force on Energy Policy, this document was approved by the southern governors on August 7, 2001. It contains five key principles and policy options for a southern regional energy policy.

***Household Products Management: A Resource Guide for Managing Household Products and Household Hazardous Waste.*** 1999.

This guide assists officials who are responsible for the safe management of household product waste and advises residents about proper disposal of these products. It is designed for the use and distribution by local governments that do not have household hazardous waste collection programs and experience in managing household product waste or household hazardous waste.

***Industry Survey Final Report - Developing State Policies Supportive of Bioenergy Development.*** July 2004.

Biobased industry officials were surveyed to determine the impact of existing and/or lack of policies on efforts to develop, deploy or use biobased technologies or products. Although this survey was focused on industry, in some cases questionnaires were sent throughout North America to trade associations, and a few questionnaires were sent to selected government officials and academia throughout North America. The survey asked for comments on the effectiveness of the existing policies and programs and asked to suggest changes in the existing policies and programs or suggest new policies and programs that are needed. The survey also asked those suggesting changes or new policies and programs to explain the rationale for their suggestions.

***Integrated Management of Municipal Solid Waste: A Handbook for Local Officials.*** January 1995.

Local officials often face important issues when managing municipal solid waste systems. This handbook answers the questions that solid waste managers must ask when developing an integrated solid waste management system and refers the reader to more detailed information about solid waste management techniques found in the Southern States Waste Management Coalition's database of solid waste information.

***Integration of Systems and Technologies for Clean Coal Power and Industrial Symbiosis in Thailand.*** January 2004.

This report is a product of a three-year cooperative effort, led by the Southern States Energy Board, to promote U.S. systems and technologies for clean fossil power and industrial symbiosis in Thailand's industrial estates.

***Nuclear Energy: Cornerstone of Southern Living, Today and Tomorrow.*** July 2006.

New nuclear power plants will be essential to continued prosperity in the South as electricity demands rise rapidly in the fast-growing SSEB states. As stated in this report, nuclear power provides a reliable, economical, carbon-free source of electricity to help fuel strong economic growth in the states of the Southern States Energy Board.

***Pay-As-You-Throw Programs in the South: Summaries of Existing Unit Pricing Programs for Municipal Solid Waste Collection.*** June 1997.

A product of the SSWMC, this document contains a brief compilation of the programs in the SSEB region as of June 1997. It is intended as a quick reference for local officials interested in PAYT.

***Processing Recyclables for Markets: A One-Stop Commodity Guidebook for Local Governments.*** February 1995.

The goal of this guidebook is to assist local leaders and other processors of recyclable commodities in developing processing and marketing systems that are appropriate, efficient and sustainable. State and local officials throughout the region use this document on a regular basis.

***Southeastern Regional Technology Deployment Workshop: Results and Lessons Learned.*** September 1999.

Following the Southeastern Regional Technology Deployment Workshop in 1999, SSEB compiled a list of results and lessons learned. The findings are documented in this summary, consisting of (1) background information on the setup of the southeastern workshop; (2) a list of incentives and recommendations for deploying innovative technologies at DOE sites; (3) a list of the lessons learned from the southeastern workshop; and (4) results from the post-workshop survey.

***Southern Mutual Radiation Assistance Plan (SMRAP).*** December 2005 (2006 edition available in December).

This annual publication contains the general provisions of the Southern Mutual Radiation Assistance Plan, which provides a mechanism for coordinating radiological emergency assistance capabilities among participating states. It is updated annually by the Southern Emergency Response Council, for which SSEB serves as secretariat.

***Tires and Solid Waste to Electricity: A Review for Missouri Department of Natural Resources.*** November 2005.

The use of tire-derived fuel (TDF) to produce energy is a viable source of electrical power generation. At the direct request of the state of Missouri, SSEB prepared this report on the technical aspects of converting tires and solid waste to electricity; the status of TDF and municipal solid waste to energy legislation for state programs; electric utility issues; and specific opportunities for the state of Missouri.



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# Frequently-Used Acronyms

Following is a list of acronyms frequently used in the Annual Report.

AMT	Alternative Minimum Tax	PSC	Public Service Commission
BRAC	Base Realignment and Closure	RH	Remote-handled
BUFF	Battlefield Use Fuel of the Future	SESC	Strategic Energy Security Corporation
CCTWG	Cross-country Transportation Working Group	SECARB	Southeast Regional Carbon Sequestration Partnership
CH	Contact-handled	SERC	Southern Emergency Response Council
CO2	Carbon Dioxide	SMRAP	Southern Mutual Radiation Assistance Plan
CTL	Coal-to-Liquid	SRS	Savannah River Site
DoD	U.S. Department of Defense	SSEB	Southern States Energy Board
DOE	U.S. Department of Energy	SPR	Strategic Petroleum Reserves
EOR	Enhanced Oil Recovery	SQS	Small Quantity Sites
EPA	U.S. Environmental Protection Agency	TDF	Tire-derived Fuel
EPAct2005	Energy Policy Act of 2005	TED	Total Energy Development
F-T	Fischer-Tropsch	TRU	Transuranic
FERC	Federal Energy Regulatory Commission	USDA	U.S. Department of Agriculture
GIS	Geographic Information System	WIPP	Waste Isolation Pilot Plant
IDB	Industrial Development Board		
INL	Idaho National Laboratory		
ITRC	Interstate Technology Regulatory Commission		
LNG	Liquefied Natural Gas		
MMV	Monitoring, Measurement and Verification		
NAAQS	National Ambient Air Quality Standards		
NETL	National Energy Technology Laboratory		
NSR	New Source Review		
OBP	Office of the Biomass Program		
OCRWM	Office of Civilian Radioactive Waste Management		
OPEC	Organization of Petroleum Exporting Countries		
ORNL	Oak Ridge National Laboratory		
PSA	Public Service Announcement		





[illegible]



## Notes

[illegible]

Alabama  
Arkansas  
Florida  
Georgia  
Kentucky  
Louisiana  
Maryland  
Mississippi  
Missouri  
North Carolina  
Oklahoma  
Puerto Rico  
South Carolina  
Tennessee  
Texas  
U.S. Virgin Islands  
Virginia  
West Virginia



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