



CELEBRATING



YEARS OF
INNOVATION

ANNUAL REPORT
2020



MISSION STATEMENT

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.



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Chairman's Message

When I was elected to serve as Chairman of the Southern States Energy Board last September at our 59th Annual Meeting in Louisville, none of us envisioned that 2020 would become such an unimaginable year with people across the globe impacted by a massive novel coronavirus pandemic. I know that I join with all of you in the SSEB family in conveying our strong belief that we will weather this crisis and emerge as a stronger Nation, bonded by our persistent faith and the scientific knowledge that will carry us forward. With our President declaring a national public health emergency on March 1 and our Nation's governors issuing emergency orders soon thereafter, we quickly learned that our Southern States Energy Board had the resilience to persevere as an organization. The many sustaining projects that we put in place over the past two decades continue, due largely to the recent modernization of risk mitigation procedures and upgrades to the staff's operational systems that facilitate office-wide teleworking. Even though this has been a year of few in-person events, project field activities, and meetings, our programs and projects have demonstrated progress and achieved milestones as intended.



*Gov. Kevin Stitt
Oklahoma*

Southern States Energy Board policy and technology initiatives are determined by member state and territory governors, state legislative leaders, and a federal representative appointed by the President of the United States. Long- and short-term goals and objectives are set by the Board and implemented by our staff. In 2003, carbon management was established as a long-term goal for future Board activities. Always on the cutting edge of energy policy development, our predecessors decided that there were robust and forthcoming issues related to the continued exploration and use of oil, natural gas, and coal and that fossil energy use was paramount to the successful economic development of our Southern region. Their timely action was prescient.

When the U.S. Department of Energy established a national network of seven Regional Carbon Sequestration Partnerships in that same year, the Southern States Energy Board was selected to manage the southern initiative, the Southeast Regional Carbon Sequestration Partnership (SECARB). That was the beginning of a massive public-private partnership that continues today. Over 125 energy industry partners collaborate on carbon dioxide (CO₂) capture, utilization, and storage (CCUS) with state and federal officials, national laboratories, university researchers, environmental organizations, trade associations, non-profits, data management companies, and technology developers, both domestic and foreign.

The crowning achievement of this continuing collaboration between government and industry has been the SECARB's design and construction of the Nation's first carbon capture, pipeline transport, and storage demonstration at Alabama Power's James M. Barry Electric Generating Plant in Bucks,

Alabama, and the nearby oilfield in Citronelle, Alabama, formerly operated by Denbury Onshore LLC. SECARB's test facility at Plant Barry represents an industry investment in the program of approximately \$350 million to design, develop, and demonstrate the integrated CCUS system. This transformative demonstration, coupled with state and federal incentives, creates a CO₂ market as industries across the nation now seek ways to capture CO₂ and sell it as a commodity rather than emitting it into the atmosphere.

The plans for this highly successful test to capture anthropogenic CO₂ then were adopted by NRG Energy, in partnership with JX Nippon, of Houston, Texas, to scale up the 25-megawatt demo to the 240-megawatt Petra Nova capture facility just outside Houston. After the CO₂ is captured, it is sent 81 miles by pipeline to the mature West Ranch oil field, a joint venture between NRG and Hilcorp Energy, where it is injected to recover over 7,000 barrels of oil per day from this 60-million-barrel field. Due to the availability of the plans from SECARB's successful deployment, NRG's Petra Nova plant was built for less than \$ 1 billion, on time and under budget.

SSEB's SECARB partners became the first of its peers to monitor the storage of a million tons of CO₂ (Cranfield, Mississippi); the first partnership to store CO₂ beneath a power plant site (Mississippi Power's Plant Victor J. Daniel in Escatawpa, Mississippi); and the first partnership to develop a CO₂ capture plant that was scaled up for commercial deployment by industry for CO₂-enhanced oil recovery (EOR).

A \$10 million extension of this partnership began this year under a new banner, now called the Southeast Regional CO₂ Utilization and Storage Acceleration Partnership, or SECARB-USA. This phase will focus on accelerating wide-scale, commercial deployment of CCUS technologies in the onshore environment by identifying and eliminating remaining technical and non-technical challenges and by determining new opportunities for technology deployment.

Applying knowledge gained from the SECARB partnership, SSEB is leading a \$38 million public-



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private partnership of technical experts and university researchers to establish a CO₂ Storage Complex adjacent to Mississippi Power's Plant Ratcliffe. Known as Project ECO₂S, this consortium is focused on the research and development required to site and permit a geologic storage site for the storage of 50+ million metric tons of CO₂ from industrial sources. The partners are pursuing key advances in optimizing CO₂ storage efficiency,

modeling the fate of injected CO₂, and establishing residual CO₂ saturations.

With the success of the offshore CO₂ storage projects in the North Sea, CCUS researchers in the United States currently are examining the feasibility of offshore CCUS technology deployment. The Gulf of Mexico (GOM) has proven to be a fertile and resource-laden location for oil resources recovery for the past several decades. SSEB's SECARB Offshore project facilitates an assessment of storage opportunities, with or without EOR, as well as the technology needs that are specific to the offshore environment. Initial targets for the

study area include active and depleted oil and gas fields as well as a deep saline storage resource assessment and evaluation in state waters off Louisiana, Mississippi, Alabama and West Florida.

The Southern States Energy Board's Committee on Clean Coal Energy Policies and Technologies is comprised of governor's representatives, state legislative leaders, Federal officials, state regulators, energy resource industries, academic researchers, public utilities, trade associations and business executives. This unique public-private partnership advances opportunities for applied research and development, investment, international cooperation, and advanced technology demonstration and commercialization of clean coal, and CCUS in the southern region. During its tenure, the Committee has been responsible for coupling the demonstration of clean coal technologies with potential domestic and international economic development opportunities. The program also affords partners the opportunity to leverage U.S. resources to assist international allies in the deployment of those clean coal-based technologies that mitigate greenhouse gases and provide CO₂ storage solutions to reduce the effects of CO₂ emissions worldwide.

SSEB maintains this productive partnership for examining issues related to clean coal and carbon management through an agreement with the U.S. Department of Energy's Office of Fossil Energy. The Committee further supports International efforts, such as active stakeholder participation in the 24-nation Carbon Sequestration Leadership Forum, the Cleaner Fossil Fuel Systems Committee of the World Energy Council, and the United States Energy Association.



We will place a strategic emphasis on continuing innovation of by-products from oil and gas production, accentuating the efficiency of managing, treating and recycling produced water. Our aim is to ensure that every molecule has a purpose and a contribution to our economy and the stewardship of our environment.

The Committee on Clean Coal held its 41st Annual Meeting virtually in conjunction with the Virginia Coal and Energy Alliance (formerly the Eastern Coal Council) on May 18, 2020. Keynote addresses were by Congressman Morgan Griffith of Virginia, Congressman David McKinley of West Virginia, and Steve Winberg, Assistant Secretary of Fossil Energy, at the U.S. Department of Energy.

America's role in global energy production and consumption changed in 2009 as a result of the shale oil boom. Innovations in horizontal drilling and hydraulic fracturing led us to advanced techniques for hydrocarbon production from unconventional sources. While this has resulted in incredible successes for U.S. oil and gas industries, it also has created some unique challenges such as produced water as a by-product from completed wells after fracking. We know that it takes 10 barrels of water to produce one barrel of oil. U.S. Geological Survey data has indicated that some major basins can produce 15-20 million barrels of water per day. We will place a strategic emphasis on continuing innovation of by-products from oil and gas production, accentuating the efficiency of managing, treating and recycling produced water. Our aim is to ensure that every molecule has a purpose and a contribution to our economy and the stewardship of our environment.

SSEB has a long and storied history pertaining to the beneficial use of radioactive materials to enhance the quality of life in the South. From a commercial perspective our region has relied upon and continues to advocate the use of nuclear power as a stable, reliable, and relatively inexpensive supply of electricity. Not only has it furthered the goal of energy independence, but as a part of a diverse energy portfolio it has helped to reduce greenhouse gas emissions. The South continues to operate many high-performing plants and is the only region actively constructing new nuclear units. Additionally, SSEB member states are home to numerous



Department of Energy Laboratories and other facilities which have contributed to national security through the production of nuclear weapons and to the health of our citizenry by means of research and medical applications. However, in order for the Nation to continue to reap the benefits of these practical uses of radioactive materials, there must be effective policy to address the back-end of the nuclear fuel cycle including management and waste disposal initiatives.

The Board's Radioactive Materials Transportation Committee is currently in the midst of a five-year \$1 million cooperative agreement with DOE's Office of Nuclear Energy for the planning and establishment of a transportation system for shipments of used nuclear fuel and high-level radioactive waste. This Committee of gubernatorially appointed health professionals and emergency managers provides a regional perspective and unique expertise to assist in the advancement of policies and procedures to safely and effectively develop a national program. Presently, the Committee is exploring routing and safety considerations with the use of rail shipments to move used fuel from commercial nuclear plants to an interim storage facility.

SSEB's Transuranic Waste Transportation Working Group convenes regularly for the specific task of assisting the U.S. Department of Energy in achieving environmental management milestones. The mission is accomplished by removing cold war era contaminants from the Oak Ridge National Laboratory and Savannah River Site and safely transporting them to the federal repository in New Mexico, also known as the Waste Isolation Pilot Plant. The Working Group uses a programmatic approach which entails each corridor state to design and implement a comprehensive work plan to support shipments traversing their jurisdiction. Earlier this year, SSEB negotiated a new agreement to cover the period of July 2020 through June 2025 for a total sum over \$12 million. These funds will be used by member states for emergency response planning, first responder training, equipment purchases, public outreach and education, security, inspections, and many others associated tasks.



SSEB's Associate Members, Dominion Energy, Southern Company and Duke Energy have faced difficult challenges this year due to the changing economic environment surrounding the novel coronavirus. The three utilities recently announced plans to create a "Southeast Energy Exchange Market" to provide greater integration of generation and transmission systems. This new venture is expected to lower costs, gain greater efficiencies, and increase regional implementation of renewable energy systems.

With great change comes infinite opportunity. My state of Oklahoma is comprised of energy pioneers. With a long and storied history of producing oil, natural gas and other traditional fossil fuels, we have epitomized the pioneering American spirit. Now these pioneers are facing a new frontier and we are spearheading an "all of the above" approach to energy policy. We choose energy that is produced locally, that is affordable, and that is reliable. We are a leader in wind generation and other renewable resources, ranking #2 nationally in wind production. As one of four states that receives 40% of our electricity from renewable resources, we have embraced a future that enables us to produce power locally and export 28% of our energy to neighboring states.

SSEB's enormous portfolio of current projects and programs exceeds \$450 million in 2020, a phenomenal amount considering the size of the organization. What I have focused on above is merely a part of the range of activities that are before the Board this year. Since January 2020, SSEB has generated more than \$50 million in new public-private partnerships that include energy industry, state, and federal funding. All of these funds will be returned to member states and territories through cooperative agreements, contracts, and subawards with state agencies, colleges and universities, utility partners, energy research organizations, national laboratories, energy resource companies, and businesses in our Southern region.

In a year that has been extremely challenging, it is gratifying for me to serve as Chairman of such a dynamic and productive organization. Our member states send many millions in taxes to the federal government in Washington. The Southern States Energy Board's unique programs and relationships assist in returning funding to us for the benefit of the economies of our member states. I commend this 60th Anniversary Southern States Energy Board Annual Report to you, so that you can see in more depth the incredible value and future promise of this great compact of states!

A handwritten signature in black ink, appearing to read "Kevin Stitt". The signature is stylized and cursive.

The Honorable Kevin Stitt
Governor of Oklahoma
Chairman

PROJECTS

Joint Meeting of the Board and Associate Members

The Southern States Energy Board conducted an inaugural virtual meeting between Board Members, Associate Members, and staff on May 7, 2020. The purpose of the meeting was to caucus on the effects of the coronavirus pandemic on SSEB member states, discuss executive and legislative branch actions and activities, and hear from the Associate Members on the issues and impacts affecting the energy industry due to the pandemic. Ninety members and staff participated in this inaugural event.

Representative Lynn Smith of Georgia, SSEB's Vice Chair, presided over a roundtable discussion featuring eighteen Board Members who shared current issues, legislative priorities, and techniques employed to identify, mitigate, and minimize the initial and long-term impacts of the pandemic throughout the region. The pandemic interrupted or delayed the regular legislative sessions of SSEB's member jurisdictions, but new and amended laws related to energy and environmental topics remained at the forefront of critical issues to be addressed once legislatures reconvened. Issues and priorities mentioned by Board Members during the event include:

- Establishing strategic energy plans that generate economic development and assert environmental sustainability;
- Embracing new and emerging technologies and preparing a roadmap for the energy workforce of the future;
- Addressing and navigating the cumulative effect of coal power plant retirements and closures;
- Harmonizing existing laws to accommodate the transition to a growing renewable electricity generation portfolio;
- Examining emergency storage options for oil and natural gas due to decreased demand;
- Assessing the efficacy of blockchain technology implementation for the security and efficiency of data management for state services and utilities; and
- Investing in critical energy infrastructure replacement and establishing laws for criminal trespass.

Other common themes emerged from the meeting, including the need to reassess state revenue projections to enact a balanced budget using the most accurate data; the compounding challenges of coordinating emergency response efforts, amid a pandemic, in response to extreme weather events across the region; weighing the risks and consequences of action and inaction as it pertains to all pandemic-related decisions; and the diverse approaches under consideration for reopening states for business and the overarching effects to the economy.

The Board's governors and legislative leaders remained steadfast in their convictions to champion significant laws across a broad spectrum of energy and environmental topics. SSEB's Legislative Digest was compiled during the summer and released only four months after this event. The Legislative Digest is a compendium of more than 330 laws enacted by our member jurisdictions through September 1, which is a true testament to the commitment of southern policy-makers' continued resolve to ensure energy security, reliability, affordability, and sustainability for their constituency, for the region, and for generations to come.

At the conclusion of the Board's roundtable discussion, Ms. Jennifer Jura of the Edison Electric Institute, in her role as Chair of the Associate Members program, facilitated reports from eleven members. During this unprecedented time, many of our Associate Members were serving on the front line of the pandemic ensuring that energy and electricity delivery is uninterrupted and accessible to everyone. Their reports centered on impacts from the perspectives of the region's industry, utilities, associations, and non-profit organizations and highlighted unique challenges encountered during the first two months of the pandemic and other priority topics, including:

- Measures required to ensure the safety of energy industry workers and crews who are vital to maintaining and repairing the infrastructure;
- Impacts of the pandemic on important federal programs that provide financial assistance to low-income households;
- Voluntary suspension of service disconnection and late fees initiated by utilities to curtail hardships related to the Coronavirus;
- Access to nuclear power plants for refueling and maintenance;
- Expansion of rural broadband to support the rapid increase in teleworking, virtual meetings, and online education;
- Equal representation for the coal supply chain on the list of essential industries by the U.S. Department of Homeland Security's essential industries;
- Acceleration of grid modernization projects;
- Fate of coal ash, including temporary storage for future beneficial uses;
- Waivers for motor fuels to resolve an oversupply issue and to allow the distribution of the winter-blended supply until it is sufficiently depleted; and
- Impacts of severe weather events devastating energy infrastructure, including tornadoes, flooding, and hurricanes.

The Board's Secretary and Executive Director, Kenneth J. Nemeth, provided the staff report by announcing the ease by which the staff transitioned to teleworking and the remarkable successes staff continues to achieve by maintaining a 'business as usual' approach to operations. SSEB's project portfolio, which directly benefits over 65 state agencies, colleges, universities, and consultants has

grown significantly during this year by adding new projects related to carbon capture, utilization, and storage and nuclear energy and radioactive materials transportation. A primary focus of the staff is in seeking new funding opportunities for public-private partnerships to advance energy technologies where existing and future or anticipated opportunities align with the Board’s issues and priorities.

The Board’s Federal Representative, the Honorable Eddie Joe Williams, provided closing remarks and expressed that it is essential for SSEB to have the support of its members and those members must be well-informed if they are to champion the successes and value-added contributions of the Southern States Energy Board.

Regional Emergency Motor Fuel Waivers

In 2018, the Southern States Energy Board unanimously passed an action resolution directing SSEB staff to prepare a report on the feasibility of developing a Southern Regional Mutual Emergency Motor Fuels Waiver Assistance Plan to be implemented by a Southern Regional Emergency Motor Fuels Council.

The purpose of the plan is to form a Council of government and business leaders to assist the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE) in effecting a regional determination of the need for emergency motor fuels waivers in the preparation for major weather events, hurricanes, pandemics and natural disasters throughout the southern region culminating in a unified effort.

Year after year, the South tolerates losses of life, property, community, and infrastructure that take years to replace. It is time to establish a plan that will better protect the region and its citizenry for the future. We can expect that natural disasters and pandemics may occur in the future, yet we must meet these events with an offensive that protects our humanity and our infrastructure.

During its 2019 Annual Meeting, the Southern States Energy Board approved the staff report to foster development of a Council to be comprised of state government, affected federal agencies, and industry leaders throughout the region. The purpose of the Southern Regional Emergency Motor Fuels Council is to work together in a cooperative spirit to alleviate the impacts of future motor fuels shortages across the Southern region. The primary goal of the Council will be to facilitate education



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and outreach on the need for a collaborative effort toward an effective and accelerated regional emergency motor fuels waivers process, application, submission, and implementation.

An initial objective of the Council will be to begin the preparation of a regional emergency motor fuels waivers playbook which will address the sequencing and the processes necessary for states to request and potentially receive regional emergency motor fuels waivers to speed deployment of fuels into affected states prior to an impending event.

The SSEB staff began making contact with state, federal, and industry officials to form the Council in the Spring of 2020 but an initial meeting was interrupted by the novel coronavirus pandemic. Discussions are planned to resume on Council formation in 2021.

Educating Stakeholders

Southern States Energy Board prioritizes outreach and education through a variety of venues including keynote presentations, panel discussions, conferences and workshops, exhibits, and myriad activities meant to engage public officials and other stakeholders. SSEB strives to enhance and improve understanding and awareness of domestic energy development, energy and environmental policies, and clean energy technologies and their importance in the region.

Since March 2020, the Board and its staff were faced with new outreach and communications challenges. Amid newfound and wide-spread public health emergency response responsibilities and travel restrictions affecting our members and partners, most meetings were converted to virtual events while others were canceled. Staying true to our goal of providing a forum for members to share experiences and lessons learned, the Board's leadership sought ways in which its members and partners could continue to interact through virtual events. The SSEB staff also embraced the opportunity to enhance its project-related team coordination and outreach efforts using virtual venues. Examples of significant engagements from the past year are provided below and demonstrate that, even in such an unprecedented year, a robust communications effort remains a tremendously successful focus of the Board.

SSEB Briefings to Board Members |
Presenters

Joint Meeting of the Board and
Associate Members | *Host and
Presenters*

State Energy Offices, Briefings on SSEB
Programs and Activities | *Presenters*

SSEB Associate Member Meetings |
Host and Presenter

SECARB Offshore GOM Partnership
(Joint Meeting with The University of
Texas at Austin, Bureau of Economic
Geology) Stakeholder Briefing | *Host
and Presenters*

SECARB-USA Project Kickoff Meeting |
Host and Presenters

National Energy Technology
Laboratory's 2020 Virtual Integrated
Project Review Meeting | *Presenters
and Participants*

Groundwater Protection Council
Underground Injection Control
Conference | *Presenter and Participant*

Maryland Energy Administration and
Department of Environment "The
Future of Carbon Capture in Maryland"
Workshop | *Presenter*

CO₂ Carbon Management Workshop,
"SSEB Perspectives on CCUS and
Carbon Management in the Southern
States" | *Presenter*

CCUS Roadshow with the United States
Energy Association | *Co-sponsor and
Presenter*

United States Energy Association CCUS
Deployment Training | *Presenter*

National Association of Regulatory
Utility Commissioners (NARUC) Carbon
Capture, Utilization, and Storage
Partnership | *Presenter*

STEMM-CCS Open Science Meeting
& 4th International Workshop on
Offshore Geologic CO₂ Storage |
Presenter and Participant

AGU Fall Meeting | *Presenter and
Participant*

Virginia Coal and Energy Alliance, SSEB,
and Virginia Center for Coal and Energy
Research's 41st Annual Conference,
"Coal: America's Vital & Endangered
Resource" | *Host, Co-sponsor, and
Presenter*

SSEB Committee on Clean Coal Energy
Policies and Technologies Meeting |
Host

Western Interstate Energy Board High-
Level Radioactive Waste Committee
and Western Governors Association
WIPP Technical Advisory Group
Meeting | *Presenter*

Council of State Governments
Northeast High-Level Radioactive
Transportation Task Force | *Presenter*

Council of State Governments
Midwestern Office Radioactive
Materials Transportation Committee
Meeting | *Presenter*

Joint Radioactive Materials
Transportation Committee and
Transuranic Waste Transportation
Working Group Meeting | *Host and
Presenter*

Tribal Radioactive Materials
Transportation Committee Meeting |
Presenter

National Nuclear Materials
Transportation Stakeholder Forum |
Co-Planner

Mississippi Emergency Management
Agency Transportation Emergency
Preparedness Program Radiation
Specialist Course | *Presenter*

EBI Energy and Environmental Summit |
Presenter

American Legislative Exchange
Council's Energy, Environment, and
Agriculture Subcommittee | *Presenter
and Participant*

USAEE/IAEE North American
Conference/Energy Transitions in the
21st Century | *Participant*

EnVision Forum (Kentucky) |
Participant

National Governors Association,
NARUC, Southeastern Association
of Regulatory Utility Commissioners,
National Association of State Energy
Officials, Industrial CCUS, State
Regional Energy Profiles, Clean Energy
Vehicles, Southface Energy Institute,
and IEEE-Power and Energy Society |
Participant



PROGRAMS

Southeast Regional Carbon Sequestration Partnership (SECARB)

The Southeast Regional Carbon Sequestration Partnership is a public/private partnership underway at the Southern States Energy Board to ensure the availability of large volumes of carbon dioxide for various industrial purposes including injection into both oil and gas reservoirs for enhanced recovery of products and saline formations for storage. SECARB is one of seven Regional Carbon Sequestration Partnerships (RCSPs) nationwide funded by the U.S. Department of Energy's National Energy Technology Laboratory and cost-sharing partners. The primary goal of the SECARB Partnership is to promote development of a framework and infrastructure necessary for the validation and deployment of carbon dioxide capture and storage (CCS) technologies.

Key to the success of any CCS project is an operator's ability to predict and monitor the flow of CO₂ molecules injected into the subsurface and to communicate this information to stakeholders and regulators. The SECARB Early Test began in 2009 at Denbury Onshore, LLC's active CO₂-enhanced oil recovery operation in the Cranfield oilfield near Natchez, Mississippi. The SECARB team has successfully field-tested a variety of CO₂ monitoring, verification, and accounting (MVA) technologies to determine their commercial viability and robustness. The SECARB MVA program at Cranfield concluded in January 2015, and the cumulative total stored CO₂ mass monitored at Cranfield is 5,371,643 metric tons. The three research wells were safely plugged and abandoned in accordance with the Mississippi Oil and Gas Board rules in April 2015. Denbury's commercial operations will continue.

SECARB was the first of the regional carbon sequestration partnerships to begin CO₂ injection and the first to achieve the goal of monitoring a one million metric ton injection. SECARB was the first partnership to store CO₂ under a power plant in Escataupa, Mississippi. Data collected at Cranfield is utilized by the SECARB team and researchers worldwide to further refine reservoir models for similar geologic settings. In 2010, the international Carbon Sequestration Leadership Forum (CSLF) recognized the Early Test project at Cranfield for its outstanding accomplishments in advancing CCS MVA technologies.

Knowledge gained from the Early Test was applied at the Anthropogenic Test site in



The primary goal of the SECARB Partnership is to promote development of a framework and infrastructure necessary for the validation and deployment of carbon dioxide capture and storage (CCS) technologies.

Alabama, where CO₂ injection began in August 2012. Under separate funding, the CO₂ was captured at Alabama Power Company’s James M. Barry Electric Generating Plant located in Bucks, Alabama. The CO₂ was transported 12 miles by pipeline and permanently stored within a deep saline formation at the Citronelle oilfield operated by Denbury. CO₂ injection ended in September 2014; more than 114,000 metric tons of CO₂ was injected and stored at the site. The SECARB partners applied proven and experimental MVA technologies to monitor CO₂ movement in the subsurface during the post-injection phase. The wells were plugged and abandoned in August 2018. In November 2013, the CSFL recognized the Anthropogenic Test project at Citronelle for its outstanding accomplishments in advancing CCS technologies.

Previous research and technology development conducted under the SECARB Partnership led to the successful commercialization scale up at NRG’s Petra Nova plant near Houston, Texas. Today, Petra Nova is the world’s largest post combustion carbon capture facility attached to an existing coal-fueled power plant. Regarding SSEB’s role in the project, NRG Vice President David Greeson responded that “we couldn’t have done this [\$1 Billion project] without the SECARB demonstration that convinced our investors of the viability of the technology.”

SECARB continues to characterize the region’s onshore and offshore geologic storage options, monitor federal and state regulatory and legislative activities, and support education and outreach efforts related to the program.

Southeast Regional Carbon Storage Partnership: Offshore Gulf of Mexico (SECARB Offshore)

Energy production from enhanced oil recovery (EOR) will continue into the foreseeable future. An environmentally sustainable approach will be required to ensure the availability of the additional large volumes of CO₂ to be injected into both oil and gas reservoirs and saline formations to ensure energy security. Therefore, a carbon management approach capable of lowering industrial emissions in a manner that is both economical and publicly acceptable in the long-term is desirable. Associated carbon storage at commercial scale as part of an EOR operation or in a saline reservoir shows promise to help meet these goals.



Facilitating offshore geologic storage of CO₂ in the Gulf of Mexico (GOM) is being addressed by SSEB through the creation of government-industry partnership(s) that are focused on assembling the knowledge base required for secure, long-term, large-scale CO₂ storage, with or without enhanced hydrocarbon recovery. The primary objective of this project is to expand the membership of the

Southern States Energy Board's existing Gulf of Mexico government-industry partnership to meet the need and support the goal of ensuring energy security in the United States.

SSEB is leading this partnership of universities and technical experts. The following organizations will contribute their expertise to the project: Advanced Resources International, Battelle Memorial Institute, Crescent Resource Innovation, Geologic Survey of Alabama, Louisiana State University, Oklahoma State University, University of South Carolina, Virginia Polytechnic Institute and State University, The Energy Institute of Alabama, Interstate Oil and Gas Compact Commission, The Mississippi Energy Institute, and SAS.

The following documents currently are being drafted and will be available by the end of the year:

- White Paper on the use of the SAS Viya Platform;
- White Paper on the parametric study to assess technical prospect feasibility for CO₂ storage with and without CO₂-EOR;
- White Paper on the factors determining commercially optimal development strategies for CO₂ storage with and without CO₂-EOR;
- Report on Characterization of the Offshore Storage Resource Potential in the Study Area (this is a milestone); and
- Report on Characterization of Representative CO₂ Storage Opportunities.

Establishing an Early CO₂ Storage Complex in Kemper County, MS (ECO₂S)

The Southern States Energy Board is leading a coalition of universities and technical experts to establish a CO₂ Storage Complex adjacent to the Kemper County energy facility in eastern Mississippi. Current estimates indicate that this Complex can securely store up to 675 million metric tons (MMT) of CO₂.

Project ECO₂S is pursuing key advances in CO₂ storage knowledge and technology including optimizing CO₂ storage efficiency, modeling the fate of injected CO₂, and establishing residual CO₂ saturations. In addition, Project ECO₂S is incorporating "real-life" experiences and issues. One such issue is that of scaling-up from regional, pre-feasibility, assessment to establishing a site-specific CO₂ storage complex. An important component of this transition is capturing the lessons learned.

Project ECO₂S is funded by the U.S. Department of Energy's National Energy Technology Laboratory (NETL) and led by SSEB. Mississippi Power Company (MPC) is serving as the site host as well as the primary cost-share partner and the source of the CO₂. The project includes technical and field implementation support from Advanced Resources International (ARI) with analytical support

from two national laboratories (Los Alamos and Lawrence Berkley) and several universities (Auburn University, Mississippi State University, Oklahoma State University, Virginia Polytechnic Institute and State University, the University of Alabama at Birmingham, and the University of Wyoming). Additional participants include the Battelle Memorial Institute and the Geological Survey of Alabama.

To date, the project has identified and defined an acceptable commercial-scale CO₂ storage site. A Commercialization Plan has been developed with significant input from ARI. This plan discusses the relationship of the site to protected or sensitive areas; pore space ownership, site access, infrastructure issues; proximity of the site to population centers; potential conflicts with surface or subsurface resource development; and availability of right-of-way issues for gathering lines and pipelines. To further elucidate these topics, the following tasks were performed:



Geologic characterization well drilling at the Project ECO₂S site.

- Defined protected and environmentally sensitive areas for well drilling and surface equipment placement to avoid potential conflict;
- Confirmed ownership of approximately 6,000 acres of surface and pore space rights in the center of the Kemper Regional CO₂ Storage Complex. MPC is systematically obtaining abstracts and examining titles to identify the owners of the remaining 24,000 acres of surface tracts and pore space; and
- Recognized that the project site is in a rural area with a limited population and no population centers at the project site.

Regional-scale subsurface characterization provides detailed information on the geological suitability of the ECO₂S Regional CO₂ Storage Complex. This includes information about the Regional Geological Setting; Underground Sources of Drinking Water (USDWs); Legacy Wellbores; Subsurface Structural Elements; and Geo-Mechanical Analyses. Together, these data provide confidence that the subsurface geological formations at the proposed Regional CO₂ Storage Complex exhibit truly exceptional CO₂ storage capacity. The Kemper Storage Complex offers the potential to safely and securely store at least 675 MMT of CO₂ in the 30,000-acre site, at a rate of 22.5 MMT of CO₂ injected per year for

30 years. The \$14 million project received a no-cost extension in February 2020 and will conclude September 30, 2020. SSEB has recently received an ECO₂S Phase III Award of \$24 million dollars. The Phase III project will build on the success of the ECO₂S Phase II Project and begins in October.

Southeast Regional CO₂ Utilization and Storage Acceleration Partnership (SECARB-USA)

The Southern States Energy Board is leading a coalition of technical experts to identify and address regional onshore storage and transportation challenges facing commercial deployment of carbon dioxide (CO₂) capture, utilization, and storage (CCUS) technologies.

The goal of SECARB-USA is to aid the United States in meeting its need for secure, affordable, and environmentally sound fossil energy supplies. The project will utilize the advancements made by the current Regional Carbon Sequestration Partnership (RCSP) Initiative to continue to identify and address knowledge gaps.



SSEB and a select network of experienced CCUS project developers and operators will coordinate their capabilities to accelerate CCUS deployment and achieve four primary research objectives: 1) address key technical challenges; 2) facilitate data collection, sharing and analysis; 3) assess transportation and distribution infrastructure; and 4) promote regional technology transfer and dissemination of knowledge.

The SECARB-USA regional initiative encompasses the States of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and portions of Kentucky, Missouri, Oklahoma, Texas, and West Virginia. The SSEB is the award recipient.

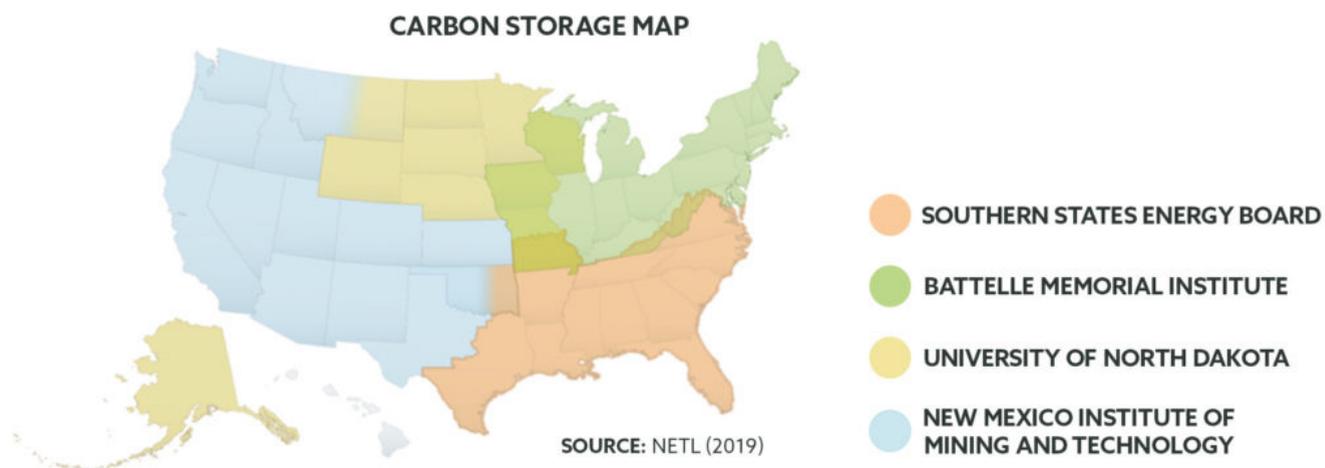
The Partners will collaborate with the U.S. Department of Energy (DOE) and National Laboratories to accelerate CCUS technology development to support the National Risk Assessment Partnership (NRAP) and other modeling and simulation efforts that support a new machine learning initiative. Results and knowledge gained will be archived in the Energy Data eXchange (EDX) database and made available to the public for the benefit of industry and other CCUS stakeholders.

Since the project start date of October 2019, the team has participated in the project kick-off meeting which occurred on November 15, 2019 in Pittsburgh. The Project Management Plan was implemented on November 4, 2019. A Data Management Plan was completed and includes information on data types and sources, content and format, sharing and preservation, and

protection. A project fact sheet and web page were published. In June 2020, the team held an online virtual project partners kick-off meeting.

Beginning in April 2020, the team has held a series of monthly working group calls to identify and define the non-technical challenges to CCUS deployment and to facilitate and inform regional efforts to address these challenges. Transportation infrastructure and source-sink matching remain issues, particularly in “Gap” areas, and have numerous non-technical impediments. Some general infrastructure work has been done in the region, but further expansion is a high priority. Large areas of the southeast region lack CO₂ storage/utilization opportunities and need additional subsurface characterization with associated non-technical requirements. Further, the Working Group addressed the importance of assisting states in obtaining Class VI Primacy. It was noted that, by the time State Primacy is obtained, some aspects of Class VI rules will have undergone federal revisions. States are often reluctant to reopen a rule-making with the EPA. Therefore, mechanisms should be developed to enable State regulators to make timely revisions without jeopardizing Primacy. In addition to Class VI rules, states within the region must address other challenges to commercial CCUS projects such as pore space rights and surface access. Last, the 45Q tax credit is a priority for the Working Group. Owners of CO₂ storage credits must have tax appetite or the ability to assign the credits to a third-party with pricing certainty. The possibility of tax credit recapture by the IRS may deter future investors. Banking and finance institutions, and insurance companies need to become educated on how 45Q tax credits work.

Future work includes a Needs Assessment Framework for Storage Complexes; a Preliminary Regional Assessment of Potential Storage Complexes, Including Capacities and Costs, Based on Application of NRAP and SCO₂T tools, an Infrastructure Assessment; a Sub-basin Prospective Areas report; a Regional Site Readiness report; a Data Quality Methodology report; and The Inventory Initial List of Non-Technical Challenges for CCUS. Finally, outreach and education on matters of commercial opportunities, workforce development, and economic development will move forward.



Committee on Clean Coal Energy Policies and Technologies

Since 1979, the Southern States Energy Board’s Committee on Clean Coal Energy Policies and Technologies has been an outstanding example of the Board’s public-private partnership network. Comprised of governors representatives, state legislative leaders, federal energy officials, state regulators and energy office directors, university energy researchers, energy resource companies, public utilities, trade associations, technology developers, and energy consultants, the Committee represents the largest regional body on clean coal policies and technologies in the Country. Coal Committee members remain active during the year in support of policies and practices that further research and development on clean coal policies and technologies while mitigating pollution and the impact of greenhouse gases from coal.



The Committee represents the largest regional body on clean coal policies and technologies in the country.

Emphasis of the Committee during 2020 has focused on Regional Energy Profiles in Southern states and the changing patterns of energy production, consumption, electricity use, fuels, and energy exports across the South. Developed in cooperation with the Kentucky Energy and Environment Cabinet’s Office of Energy Policy, this new SSEB report is a current view of energy resource use in the region. Other highlights include a publication on state coal related legislation that was developed for a National Coal Council Report to the U.S. Secretary of Energy.

For the past 41 years, the Committee has held a Joint Annual Meeting with the Virginia Coal and Energy Alliance (formerly the Eastern Coal Council). Even during a pandemic, the two organizations met virtually on May 18, 2020. Meeting attendance exceeded 200 participants. Keynote addresses were given by Congressman Morgan Griffith of Virginia, Congressman David McKinley of West Virginia, and Steve Winberg, Assistant Secretary of Fossil Energy at the U.S. Department of Energy. J.P. Richardson, Chairman of VCEA, offered his perspective on the status of met coal sales at home and abroad. He mentioned that Virginia is a major supplier of metallurgical coal to the steel industry of the United States and to the steel industries of many other countries. In fact, the quality of the metallurgical coal produced in Virginia is viewed as “premium” product to many coke makers around the world. Approximately two-thirds of all metallurgical coal produced in the United States is exported to other countries.

SSEB maintains this productive partnership for examining issues related to clean coal and carbon management through an agreement with the U.S. Department of Energy’s Office of Fossil Energy.

The Committee further supports International efforts, such as active stakeholder participation in the 24 nation Carbon Sequestration Leadership Forum, the Cleaner Fossil Fuel Systems Committee of the World Energy Council, and the international programs of the United States Energy Association. SSEB's Clean Coal Committee also has conducted trade missions and reverse trade operations and exercises with other countries including Brazil, Thailand, and Vietnam.

Through an enhanced cooperative relationship with the U.S. Department of Energy's Office of Clean Coal and Carbon Management, the Committee has begun a special "State Outreach" emphasis through the Southern States Energy Board that provides DOE coordination and technical expertise on state legislation, regulations, programs, projects or industry needs to improve carbon management practices, technologies or resource augmentation. An example is the need to accelerate the deployment of CCUS in the South by coupling power plants and related industries that can benefit from CO₂ capture and utilization. All fossil energy resources and industries can benefit from this increased utilization while focusing on environmental protection.

Foreign Research Reactor Spent Nuclear Fuel Shipments

In the 1950's, as part of the "Atoms for Peace" program, the United States provided assistance to foreign countries regarding the peaceful application of nuclear technologies pending their agreement not to develop nuclear weapons. To further reduce the chance of nuclear proliferation, the United States agreed to take back and manage the spent fuel from the reactors overseas, in addition to assisting the foreign entities in minimizing and eventually eliminating the use of highly enriched uranium in their programs worldwide.

The DOE's National Nuclear Security Administration (NNSA) is the lead organization for monitoring and promoting non-proliferation policy. To achieve this goal, NNSA's Nuclear

Material Removal Program has partnered with the Southern States Energy Board since the mid-1990's in the domestic planning logistics associated with the removal and/or disposal of U.S. origin highly-enriched uranium (HEU) and low-enriched uranium from foreign countries.

SSEB became fully vested in the campaign with the formation of two committees: Foreign Research Reactor Spent Nuclear Fuel Transportation Working Group and the Cross-Country Transportation



DOE-NNSA official briefs groups regarding shipping packages for the Canadian Transportation Campaign.

Working Group (CCTWG). The purpose of those committees was to provide state participation in the DOE planning effort to successfully carry out a 23-year shipping campaign (1996-2019) under which the United States would accept up to 19.2 metric tons of spent nuclear fuel from research reactors in Africa, Australia, Europe, Asia, North America and South America.

During the life of the program, the majority of the shipments entered the U.S. via the southern region (Naval Support Activity Charleston) hailing from over 30 countries. In addition, 10 cross-county shipments have been conducted to move fuel from Charleston to the Idaho National Laboratory (INL). Besides maritime movements occurring from overseas, the program also includes highway transport from Canada. Shipments from the Chalk River facility in Ontario include Target Residue Material (TRM) which require unique handling and packaging requirements. A new loading facility, scheduled for completion before year's end, and featuring a dedicated retrieval and transfer system is being constructed to support an estimated 116 TRM shipments. The majority of the Nuclear Material Removal Program's domestic shipments traverse states in the region en route to their eventual disposition at the Savannah River Site or INL. Therefore, SSEB will maintain its alliance with DOE-NNSA and its member states along the shipping corridor ensuring the campaign occurs in a safe, efficient manner.

Southern Emergency Response Council (SERC)

The Southern Emergency Response Council is a committee responsible for the administration of a mutual aid agreement formalized by 14 southern governors in 1972 to offer state-to-state assistance in the case of a radiological incident involving a nuclear power plant. The SERC signatory states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia.

The Southern Mutual Radiation Assistance Plan (SMRAP) is a document that outlines how the protocols would be implemented in the case of such an emergency. Created as a blueprint for coordinating radiological emergency assistance capabilities among participating states in the southern region, SERC representatives review,



Radioactive Materials Transportation Committees group photo during tour of the Turkey Point Nuclear Generating Station.

revise, and administer SMRAP on an annual basis to reflect changes in state emergency response capabilities and equipment. The document outlines the mutual aid agreement, the implementation process, emergency response contacts, and available state resources. As a part of the scope of this endeavor, the Southern States Energy Board acts as regional coordinator to simulate the activation of the SMRAP during state nuclear power plant exercises.

Since the beginning of the year, several states have incorporated SSEB into their Federal Emergency Management Agency evaluated drills and have made contact to request personnel, equipment, vehicles, and subject matter expertise from their border states. A SERC meeting is held once per year in conjunction with the Organization of Agreement States meeting. This gathering allows members the opportunity to discuss matters related to SMRAP. The next meeting of the group is scheduled to take place August 2021, in Philadelphia, Pennsylvania, to ratify the latest edition of SMRAP.

Radioactive Materials Transportation

The Radioactive Materials Transportation Committee provides the Department of Energy’s Office of Nuclear Energy (DOE-NE) with a southern states’ perspective on policy related to the safe transport and disposal of the nation’s used nuclear fuel and high-level radioactive waste. The Committee includes gubernatorially-appointed state emergency response planners, radiological health professionals, and other state agency officials. The group convenes twice per year to receive federal program updates and host interactive discussions on topics such as shipment planning and preparedness, training, routing, and communication protocols. Most recently, SSEB renewed the cooperative agreement with DOE-NE which identifies goals and objectives to be accomplished by the Committee.

Involvement and exposure to various forms of training enables SSEB member states to begin the process of developing a baseline for establishing a comprehensive emergency response program. Therefore, the Radioactive Materials Transportation Committee, in collaboration with DOE-NE and the Mississippi Emergency Management Agency (MEMA), held a Radiation Specialist Course in Meridian, Mississippi, on January 27-31. The culmination of this offering was a joint collaboration between all of the aforementioned agencies. MEMA served as the host organization and handled all of the logistics including securing an adequate facility to conduct the classroom and hands-on practicals. The DOE’s Transportation Emergency Preparedness



Student searches a training room for a hidden radioactive source.

Program conducted the actual training, which is free, in addition to providing course materials and radioactive sources used during the exercise. Although the training is free, participants are responsible for their travel expenses. Thanks to supplemental funding support provided by the DOE-NE Cooperative Agreement, SSEB was able to grant access and reimbursement for the course to emergency response personnel from other member states. The meeting was well received with a total of 30 students (20 students from Mississippi and 10 students representing seven other states within the SSEB region).

In August 2020, SSEB staff and Committee leadership participated in DOE-NE’s Virtual Transportation Core Group Meeting. The gathering provides an opportunity for SSEB and our state regional group and tribal counterparts to convene with DOE officials and hold a more in-depth dialogue than is permitted in a traditional setting. This year’s Core Group focused on program status updates, fiscal matters, ATLAS Railcar (specially designed railcars for the transport of used fuel from nuclear power plants) development, decommissioning site evaluations, routing analysis tools, and responding to questions from Core Group members.

Transuranic Waste Transportation

For over two decades, SSEB’s Transuranic (TRU) Waste Transportation Working Group has assisted the U.S. Department of Energy (DOE) with environmental management clean-up activities. The TRU Working Group’s major objective is to create and implement policies and procedures necessary to safely transport shipments of TRU waste from DOE Laboratories (Savannah River Site and Oak Ridge National Laboratory) through the South to the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico.



TRUPACT-III training unit cask on display during educational roadshow.

TRU waste, which is generated from the production of nuclear weapons, mainly consists of solid items such as protective clothing and gloves, rags, lab instruments and equipment, as well as other items that have become contaminated by transuranic isotopes. The TRU Working Group includes the member states along the shipment corridor en route to the repository. The gubernatorial appointees of the Group represent a variety of disciplines including radiological health, emergency response, and transportation planning. SSEB acts as liaison for the states to identify, prioritize, and resolve regional issues related to the

transportation of TRU waste. These activities are undertaken through a cooperative agreement with DOE's Carlsbad Field Office (CBFO).

Earlier this year, SSEB negotiated a new five-year agreement covering the period of July 2020 through June 2025 for a total sum over \$12 million dollars. The funding will be used by the states for equipment purchases, public outreach, training, exercises and other preparedness activities in accordance with the objectives of the national program. Since opening in 1999, the WIPP facility has processed over 12,000 shipments. Southern sites are steadily approaching 2000 of those shipments (ORNL - 224 / SRS - 1,677) and represent 2.8 million miles of highway transport.

Due to the COVID-19 national pandemic, shipments to the WIPP site have been suspended from several sites as of March 2020. During the interim, SSEB has been exploring opportunities to provide the WIPP corridor states with virtual training. Possibilities include remote instruction for the WIPP Education Courses of which the Modular Emergency Response Radiological Transportation Training, or MERRTT, is the main vehicle. Other considerations such as video teachings of the Commercial Vehicle Safety Alliance Level VI Inspection Training for law enforcement and TRANSCOM Training for various state personnel are options to maintain a level of preparedness.

In addition, the interruption of shipments has allowed many of SSEB's WIPP Program Managers to reallocate their time and resources and place a greater emphasis on conducting exercises. Over the next three years the states of Alabama, Georgia, Louisiana, Mississippi and Texas will begin planning and/or executing a Waste Isolation Pilot Plant Exercise, or WIPPTREX. The WIPPTREX event allows several shifts of emergency responders to test their knowledge base and training by participating in unique accident scenarios involving a WIPP shipment.



PARTNERSHIPS

Our Partners

The Southern States Energy Board has many collaborative efforts underway and through these robust partnerships with government, business, industry, and academia, SSEB states and territories benefit from the expertise of energy and environmental leaders throughout the country.

Associate Members Program

The SSEB Associate Members program was founded in 1981 by Kentucky Governor John Y. Brown during his chairmanship. The members represent the region's and nation's energy providers, resource companies, educational institutions, and technology developers. The Associate Members act in an advisory capacity to the Board. With increasing interest from the region's prominent energy industries and organizations, SSEB gains a broad depth of knowledge and diverse perspectives on the impact of energy and environmental policies and regulations on the region's economy.

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JET, Inc.	Troutman Pepper
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Marathon Petroleum Corporation	West Virginia University
Metallurgical Coal Producers Association	

Collaborative Network

SSEB participates on the U.S. Technical Advisory Group of the International Organization for Standardization (ISO) Technical Committee 265 for the development of guidance and standards for carbon capture, transportation, and geological storage. Knowledge gained from SSEB's carbon management programs is being transferred through the ISO process to ensure that standards are both technically sound and that the South's position is represented. SSEB also is an initial founder of the Global CCS Institute, an international organization focused on accelerating the deployment of CCUS as an imperative technology.

Through a collaborative effort with the U.S. Department of Energy's Office of Fossil Energy and the U.S. Energy Association, the Board became a founding stakeholder in the 24-nation Carbon

Sequestration Leadership Forum in 2003, which continues today. The policy and technical forums of CSLF further international cooperation and understanding of CCUS; legal and regulatory issues; intellectual property; and many related matters. The CSLF has recognized SSEB's two SECARB Partnership projects as international programs of excellence.

SSEB also works closely with the Government of Canada. This consular presence promotes business development, investment, tourism, culture, and information exchange between Canada and SSEB states and territories. The Board's partnership with Consuls General offices throughout the South has resulted in economic, educational, and scientific opportunities for our member states.

On a national level, SSEB is an affiliate member of the National Association of State Energy Officials. In this relationship, SSEB works closely with state energy office directors in the southern region on a wide array of programs, ranging from energy efficiency, weatherization, and energy security and infrastructure.

To foster regional cooperation and collaboration, the Board continues a strong working relationship with other regional organizations such as the Eastern Interconnection States Planning Council, the Southern Legislative Conference of the Council of State Governments, the Southeastern Association of Regulatory Utility Commissioners, the Virginia Coal and Energy Alliance, the Carbon Utilization Research Council, the Consumer Energy Alliance, and the Southeast Energy Efficiency Alliance. SSEB strives to foster ongoing relationships with other regional and state organizations with similar goals.

SSEB's Radioactive Materials Transportation Committees have worked in conjunction with their counterpart committees of the other "state and tribal regional groups" including the Council of State Governments (Northeastern and Midwestern Offices), Western Interstate Energy Board, National Conference of State Legislatures, and Western Governors' Association. This collaboration has resulted in the development of national policy and initiatives between the states, tribes, and Department of Energy for consultation and cooperation regarding issues associated with the safe transport of radioactive materials.

Another major partnership is the SSEB's involvement in the National Transportation Stakeholders Forum (NTSF). The purpose of the NTSF is to bring transparency, openness, and accountability to DOE's off-site transportation activities through collaboration with state and tribal governments. SSEB will be serving as the host of the 2021 NTSF Annual Meeting, which will bring together a national audience to receive program updates and share information via breakout sessions and working groups.

These are only a few examples of the collaborative relationships SSEB experiences through its diverse partnerships. Building partnerships is an essential goal of the Board in order to leverage opportunities and expand its expertise to assist its member states. These collaborations allow SSEB to focus its program and financial commitments to the benefit of the entire southern region.

Sources of Support

The Southern States Energy Board’s primary source of funding is its annual appropriations from the 18 member states and territories. Each member’s share is computed by a formula written into the original compact. This formula is composed of an equal share, per capita income, and population. The Board has not requested an increase in annual appropriations since 1987. The compact authorizes the Board 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 research projects from grants, cooperative agreements, and the energy industry.

Additionally, SSEB continues to lead an Associate Members program composed of industry partners who provide an annual contribution to the Board. Membership includes organizations from the nongovernmental sector, 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 economic and environmental well-being.

In addition, the SSEB carbon management program’s industry associates and partners provide monetary sponsorships to complement the Board’s CCUS projects and activities. SSEB also receives corporate sponsorships, registration fees, and in-kind contributions to support the expenses associated with the SSEB annual meeting and other events.

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

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2019-2020 Executive Committee



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In Memoriam

Barry Worthington

1954 - 2020

Throughout his tenure as executive director of the United States Energy Association (USEA), Barry Worthington was an ally of the Southern States Energy Board. Often, our organizations worked toward common goals, and his insight was always invaluable.

Worthington joined USEA in 1988 from the Thomas Alva Edison Foundation, where he was vice president. During his time at the association, he grew the group's budget from \$250,000 to more than \$8 million, tripled membership and increased staff from two to 40 employees. He also helped negotiate more than \$200 million in government grants for energy companies.



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Gerald R. Hill, Ph. D.
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Jim Powell
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Board Overview

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

Each jurisdiction is represented by the governor and a legislator from the House and Senate. A governor serves as the chair and legislators serve as vice-chair 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.





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