



2026 ANNUAL REPORT



SC NEXUS

**SOUTH CAROLINA
DEPARTMENT OF COMMERCE**





Photo: Santee Cooper rendering of possible layout for a battery storage facility.



Photo: Fairfield Electric Cooperative



Photo: Denmark Technical College Lineworker Program

Summary

The SC NEXUS 2026 Annual Report provides a clear view of SC NEXUS' progress throughout the year, including the advancement of strategic initiatives, achievement of key project milestones, economic development activities, industry and research partnerships and measurable outcomes across the organization's areas of focus. Together, these efforts reflect the continued growth of SC NEXUS and its role in strengthening South Carolina's advanced energy ecosystem.

Throughout Fiscal Year 2026, SC NEXUS worked to translate strategy into action by supporting innovation, expanding collaboration among public and private sector partners, advancing research and commercialization opportunities and helping position South Carolina for continued competitiveness in the rapidly evolving advanced energy economy. This report documents that progress, providing a comprehensive overview and visibility into how SC NEXUS investments, programs and partnerships are contributing to long-term economic and technological growth across the state.

Unless otherwise noted, all data, metrics, milestones and accomplishments presented in this report reflect activities completed during Fiscal Year 2026, covering the reporting period of July 1, 2025, through June 30, 2026.

www.sccommerce.com/scnexus

SC NEXUS for Advanced Resilient Energy
A Division of the South Carolina
Department of Commerce



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From the Secretary

Technologies that will shape America's energy future are advancing rapidly and creating new opportunities for investment, innovation and economic growth. South Carolina's future competitiveness will depend on how well we prepare today to capture that potential.

SC NEXUS, a division of S.C. Commerce, aligns advanced energy innovation with the state's broader economic development strategy, bringing together research institutions, businesses, entrepreneurs, educators and government partners to move promising technologies from research to commercialization and accelerate South Carolina's economic, energy and national security priorities.

Investments in infrastructure and an entrepreneurial ecosystem, made possible through that collaboration, are already driving results. South Carolina's advanced energy network has helped attract 18 companies representing more than \$2.56 billion in announced capital investment and over 2,500 jobs. These projects span the advanced energy value chain, from critical minerals and rare earth processing to battery recycling, grid infrastructure and advanced materials.

That momentum is reinforced by partnerships within and beyond our borders. With federal approval to expand its geographic reach, SC NEXUS became the nation's first and only federally designated Tech Hub with statewide coverage. The National Science Foundation's \$15 million award to the Grid Modernization Engine in the Carolinas complements SC NEXUS and expands the region's capacity to modernize the nation's power grid. At the same time, the launch of the Entrepreneurship and Innovation Exchange (eiX) and the upcoming reveal of the testbed projects are ensuring a path to turn ideas into companies and companies into economic opportunities.

None of this progress happens alone. Together — through SC NEXUS — we are laying the foundation for a stronger, more resilient economy and positioning South Carolina to help lead the technologies that will power America's energy future.

Harry M. Lightsey III

South Carolina Secretary of Commerce

From the Executive Director

“Energy is one of the defining opportunities of the 21st century, driving economic competitiveness, strengthening national security, and shaping the resilience of the systems that power our economy and communities.

South Carolina enters this moment from a position of strength. Our state is home to leading research institutions, one of the nation's strongest nuclear industries, a deep advanced manufacturing base, and companies developing and deploying technologies across the energy sector.

SC NEXUS was created to build on those strengths. Our work is focused on two clear opportunities: attracting and growing energy companies in South Carolina and supporting research and development that can help meet the nation's energy needs. By bringing industry, researchers, government and workforce resources together, we can help turn the work happening across our state into new technologies, new investment, and new jobs.

This annual report reflects the progress we have made over the past year and the work still ahead. South Carolina has an important role to play in America's energy future, and SC NEXUS is focused on making sure that role creates lasting value for our state while contributing to the energy resilience and national security of our country.”



Cristina Long Paredes
SC NEXUS Executive Director

The SC NEXUS Team



Fearn Gupton
Strategic Initiatives
Operations Manager



Shay Roderick
Communications
Marketing Manager



Kirk Jebaily
Market Intelligence
Industry Analyst



Deslyn McLeod
Administrative
Coordinator



Sam Christmus
Energy Technical
Partnership Manager



Why South Carolina?

South Carolina possesses one of the nation's most comprehensive advanced energy ecosystems. Home to more than 300 organizations spanning the energy value chain, the state combines world-class research, a highly skilled workforce and a business environment designed to accelerate technology deployment.

The state's innovation ecosystem is anchored by the Savannah River National Laboratory and leading research universities, including Clemson University, South Carolina State University and the University of South Carolina. Together, these institutions advance research across advanced energy systems, energy storage, nuclear technologies, advanced materials, cybersecurity and next-generation power technologies.

These research capabilities are complemented by a nationally recognized workforce development system led by the South Carolina Technical College System. Through customized, employer-driven training, the state equips companies with the skilled workforce needed to rapidly launch, expand and support advanced energy operations.

South Carolina's industrial base spans electric utilities, nuclear energy, battery manufacturing, advanced materials, grid technologies and critical infrastructure. Supported by a network of global industry leaders, this ecosystem provides the industrial capability needed to commercialize and deploy next-generation energy technologies.

Decades of investment in manufacturing, research, logistics, workforce development and energy infrastructure have created a foundation capable of supporting the full life cycle of advanced energy technologies, from research and development through commercialization and large-scale deployment.

What Sets Our State Apart is How These Assets are Connected

SC NEXUS transforms South Carolina's advanced energy ecosystem into a statewide proving ground for next-generation energy technologies by connecting researchers, utilities, manufacturers and public-sector partners. Bridging the gap between research and deployment, our testbeds enable advanced energy technologies to be developed, tested and validated in real-world operating environments, reducing operational, financial and technical risk while accelerating commercialization.

BY THE NUMBERS

No.1

fastest-growing state in the nation by percentage growth.

2.52 MILLION

well-trained and qualified workers in the labor force.

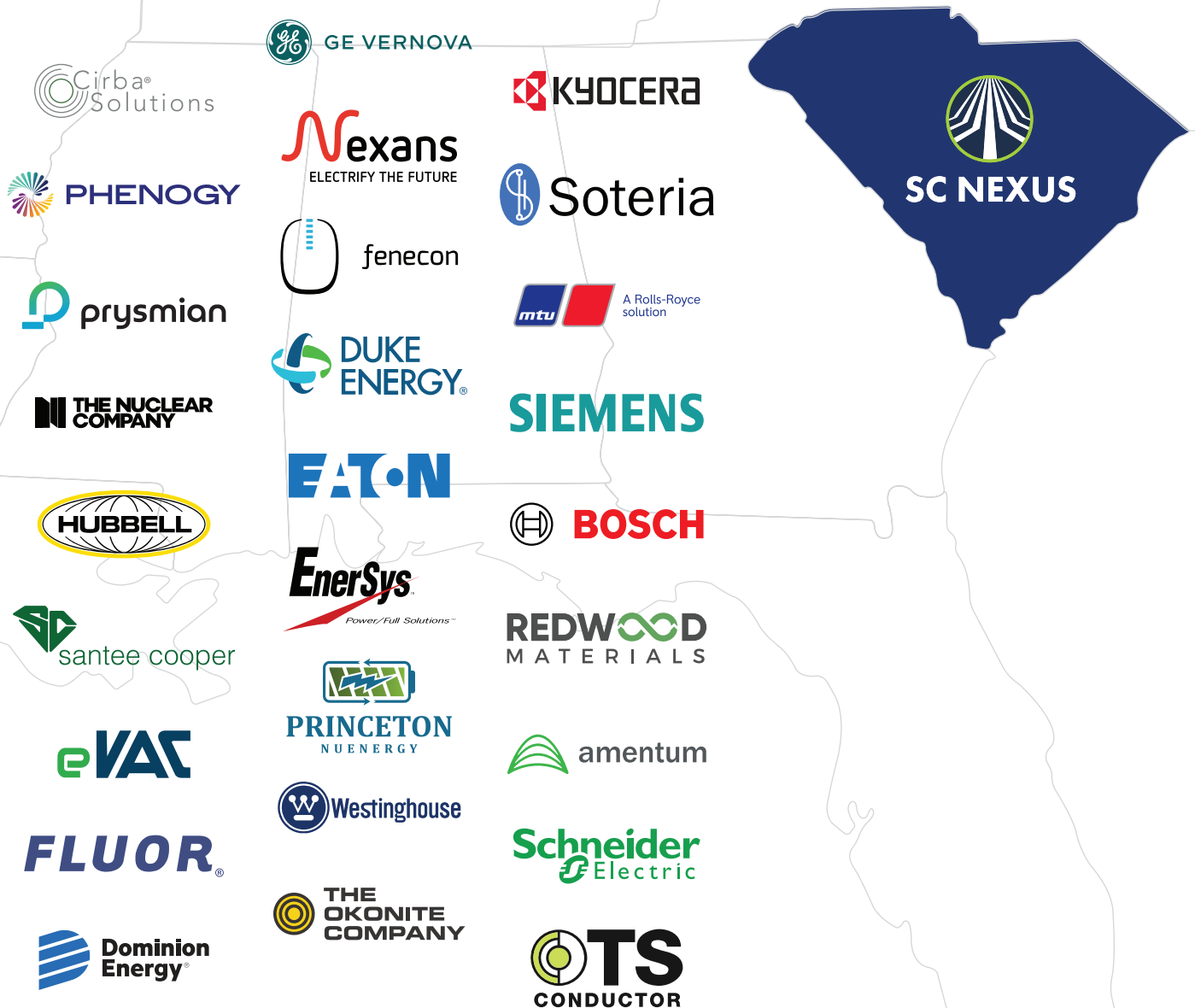
300

entities across the advanced energy industry.

More than 300 Organizations Linked Through SC NEXUS

**What Sets South Carolina Apart Is Not Just What We Have,
But How We Connect It**

SC NEXUS serves as the platform that brings together utilities, manufacturers, technology developers, research institutions, workforce organizations and government partners around shared opportunities. By fostering collaboration across the advanced energy value chain, SC NEXUS helps accelerate technology validation, reduce barriers to commercialization and strengthen South Carolina's position as a national leader in advanced energy innovation.



Impact at a Glance

Since July 2024

- More than **27 energy-related companies** invested in South Carolina, generating more than **\$3.4 billion in capital investment** with over **4,250 new full-time jobs**.
- More than **230 scholarships** were awarded to students pursuing advanced energy careers, representing over **\$790,000 in financial support**.
- Engaged in over **275 meetings and working sessions**, connecting industry, utilities, research institutions and government partners to strengthen South Carolina's energy ecosystem.

Why Now?

The United States has entered a period of unprecedented demand for reliable, affordable and abundant energy.

Growth in domestic manufacturing, the expansion of data centers, cloud computing and the broader electrification of the U.S. economy is driving the fastest increase in electricity demand in decades while elevating the strategic importance of resilient domestic energy systems.

South Carolina is at the forefront of this transformation. Rapid population growth and the expansion of energy-intensive industries are placing increasing demands on the state's electric grid, requiring significant investment in generation, transmission and supporting infrastructure.

Recognizing this, South Carolina's three largest electric utilities have projected sustained, long-term growth in electricity demand over the next two decades in their integrated resource plans (IRPs).

Santee Cooper's 2025 IRP Update projects energy sales to increase from 27,560 GWh in 2025 to 43,910 GWh by 2044, representing a 2.4% compound annual growth rate (CAGR).

Similarly, Duke Energy's 2026 Carolinas Resource Plan forecasts a 3.0% CAGR in total system net load under its base load forecast scenario from 168,686 GWh in 2027 to 255,575 GWh in 2041.

Dominion Energy South Carolina's 2026 IRP projects annual energy sales to grow at a 1.25% CAGR, increasing from 23,555 GWh in 2026 to 29,826 GWh by 2045.

Milestones

JULY
2024

Designated as one of only 12 federal Tech Hubs to be awarded federal funding, receiving \$45 million for three testbeds and one component project.

SEPT
2024

Established as an official division of the South Carolina Department of Commerce to advance economic development through energy innovation.

JAN
2025

Published the inaugural SC NEXUS newsletter and delivered the first keynote address at the Governor's Economic Summit, launching statewide engagement initiatives.

SEPT
2025

Launched website and Asset Map, providing a platform to showcase South Carolina's advanced energy ecosystem.

Our Mission

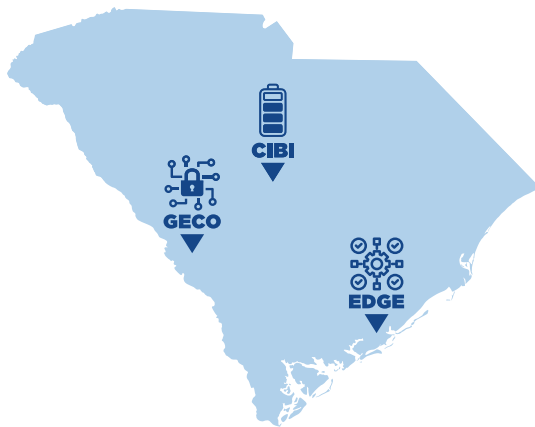
SC NEXUS is a federally designated Tech Hub accelerating energy innovation.

Our network of projects and testbeds supports the ability to DEVELOP, TEST AND DEPLOY technologies that lower industry barriers through research, workforce development and public-private collaboration.

We work to develop South Carolina's advanced energy economy, facilitate collaboration, and leverage the state's manufacturing strength to bring innovation to market. By connecting industry, academia, government and research partners, SC NEXUS creates opportunities to move promising technologies from concept to commercialization.



Testbeds and Projects



Carolina Institute for Battery Innovation (CIBI)

Battery and Energy Storage

Grid Enabled Cyber Operations Range (GECO)

Cybersecurity and Supply Chain Security

Economic Development through Grid Emulation (EDGE)

Grid Reliability and Energy Systems Testing

Entrepreneurship and Innovation Exchange (eiX)

Technology Commercialization

Education & Workforce Center (EWC)

Talent Development & Education

3 Advanced Energy Target Areas



Milestones



Fiscal Year 2026 Economic Impact

Powering Economic Growth

South Carolina's advanced energy sector continues to attract transformational investment and industry growth. During the reporting period, announced projects across the state represented billions of dollars in capital investment and thousands of new jobs, reinforcing South Carolina's position as a destination for advanced energy manufacturing and innovation.

These investments span nearly every segment of the advanced energy value chain, including critical minerals and rare earth processing, solar manufacturing, battery recycling and circular materials, grid infrastructure, advanced materials and nuclear technologies. Recent ribbon cuttings demonstrate the state's ability

to translate announced investment into operational facilities, strengthening domestic supply chains and expanding South Carolina's role in the nation's energy economy.

Such projects reinforce South Carolina's competitive advantage, strengthen critical supply chains and create high-value employment opportunities. As facilities become operational, they further strengthen the industrial foundation needed to attract future investment, reaffirming South Carolina's position as national leader in the development, manufacturing and deployment of advanced energy technologies.

In Fiscal Year 2026

South Carolina's advanced energy ecosystem welcomed 18 companies, representing more than \$2.56 billion in capital investment and over 2,500 announced jobs.



TS Conductor opened its doors May 13 during a grand opening ceremony in Hardeeville. The company manufactures next-generation advanced conductors.

Advancing Opportunities

How SC NEXUS Creates Pathways for Growth

Creating opportunities in the energy sector starts with understanding where the industry is headed and where South Carolina can compete. SC NEXUS helps position the state to capture those opportunities. The South Carolina Department of Commerce is foundational to our work, providing the economic development expertise, relationships and resources that allow us to connect companies and researchers with South Carolina's energy assets. At the same time, SC NEXUS unlocks business development, advances energy research, development and deployment that strengthens the nation's energy security.



Identifying Opportunities

Evaluates emerging technologies to identify market trends that align with South Carolina's strengths and strategic framework.



Connecting Industry

Serves as a connector between partners to introduce them to the state's innovation ecosystem, capabilities and resources.



Strengthening the Ecosystem

Convenes stakeholders to build an ecosystem that creates and fosters collaboration and accelerates innovation.



Positioning South Carolina

Raises awareness of South Carolina's capabilities, building relationships that support future investment.



For more than five decades, Westinghouse's Columbia Fuel Fabrication Facility has supported the nation's nuclear energy sector, employing more than 1,100 South Carolinians and producing fuel used to generate approximately 10% of U.S. electricity.

Westinghouse is working with SC NEXUS through the Manufacturing Employer Collaborative to strengthen workforce pipelines and prepare South Carolina to support the next generation of nuclear manufacturing growth. Through this collaboration, industry and workforce partners can better align training with employer needs, expand career pathways and develop the skilled talent needed to support continued growth across the state's nuclear sector.

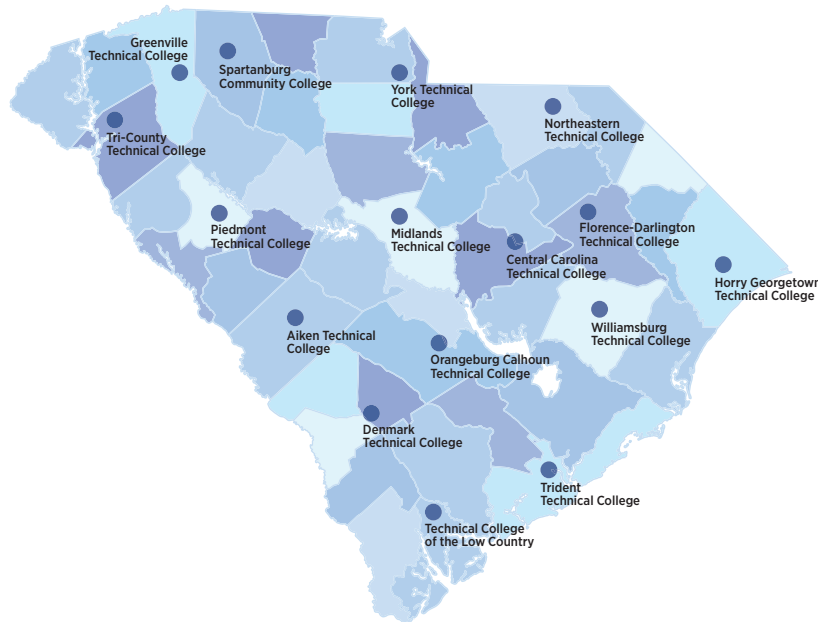
"SC NEXUS' Employer Collaborative has allowed us to better understand industry challenges and needs across the sector and provides a framework to discuss challenges and solutions with other organizations similar to ours. SC NEXUS has been very supportive of working through the process of finding solutions. They are a great partner to assist us in finding and preparing the future workforce."

- Jim Jones, Facility Training Manager at Westinghouse Columbia Fuel Fabrication Facility

Education and Workforce Center

Building Our Future Energy Workforce

Led by the South Carolina Technical College System, the Education and Workforce Center (EWC) is designed to raise awareness of South Carolina's energy-focused industries and related career opportunities and to identify and develop the skills necessary for success in these fields. Through partnerships with 12 of the state's 16 technical colleges to date, the EWC provides scholarships to students enrolled in advanced energy courses and programs.



Deployment Timeline

FEBRUARY 2027 — Virtual Reality Career Experience

An immersive VR experience will introduce students to high-demand careers across South Carolina's advanced energy sector through interactive, career-focused simulations.

MAY 2027 — Advanced Energy Mobile Exposure Lab

A 45-foot mobile learning lab will bring hands-on advanced energy career exploration directly to students and communities across South Carolina, featuring interactive technology and immersive learning experiences.

AUGUST 2027 — Statewide Launch

The Advanced Energy Mobile Exposure Lab and VR Career Experience will officially launch, creating a traveling platform to build awareness of advanced energy careers and connect South Carolinians with emerging workforce opportunities.

Technical College Partners



"When the company I was working for cut my hours and pay, I was really struggling. But I took CDL classes on the weekend and during the week. Now I have a job that feels like a blessing, and it's time for me to excel in my career."

— Kewone Lopez, Electrical Linework Transmission Apprentice at Dominion Energy

Aligning Training with Industry Demand

EWC established the Manufacturing and Utility Employer Collaboratives to create direct feedback loops between employers and workforce providers.

These collaborations moved workforce development from a supply-driven model to a demand-driven model, allowing employers to directly influence curriculum development, credential design and training priorities based on real hiring needs and projected workforce gaps.

To date, six manufacturing companies have partnered with their regional technical colleges to develop customized soft-skills micro-credentials. These programs are designed to invest in incumbent workers by upskilling technicians, strengthening workplace competencies such as communication, teamwork and problem solving, and developing more well-rounded employees. The long-term goal is to improve employee retention, strengthen team performance and support the continued growth and competitiveness of South Carolina's manufacturing workforce.

EWC's K-12 curriculum was deployed at over 50 schools across more than 20 counties in South Carolina, reaching more than 3,100 students and 220 teachers.

The Lineworker Pipeline

Electrical lineworkers represent one of the most critical occupations supporting grid resilience and energy infrastructure deployment, yet the cost of required certifications often creates a barrier to entry for prospective students.

In 2026, EWC was able to secure approval from the U.S. Economic Development Administration to increase the maximum scholarship award per student from \$2,000 to \$5,000 for students enrolled in an Electrical Lineworker Program.

FISCAL YEAR 2026 OUTCOMES	
Awarded Scholarships	230
Value of Scholarships	\$791,758

In addition to supporting postsecondary education, the project is committed to expanding career exposure and awareness to ensure South Carolina maintains a strong pipeline of educated and highly skilled individuals capable of meeting the growing workforce demands of the advanced energy sector. To further strengthen these outreach efforts, SC NEXUS partners with the South Carolina Governor's School for Science and Mathematics to engage K-12 students through advanced energy curriculum, instruction and GoSciTech Summer Camps.

By increasing scholarship support and leveraging additional financial assistance opportunities, EWC has helped create pathways into high-demand careers and address one of the state's most pressing workforce shortages.

At Tri-County Technical College alone, 48 students completed lineworker training during the reporting period, with 38 graduates securing employment within the utility sector, representing an 80% placement rate.



SC NEXUS Executive Director Cristina Long Paredes visits the GSSM Outreach Center's summer camps, where rising 6th- through 10th-graders are challenged through hands-on STEM learning in a fun, collaborative environment.



"Through its partnership with SC NEXUS and the Education Workforce Center, the South Carolina Governor's School for Science and Mathematics (GSSM) is expanding access to hands-on STEM learning experiences that connect South Carolina students and educators with the advanced energy careers and develop their understanding of advanced energy while shaping the state's future. This collaboration builds on a longstanding commitment to STEM education while helping develop the next generation of South Carolina's energy workforce."

— President Daniel Doresel at SC Governor's School for Science and Mathematics



Carolina Institute for Battery Innovation

CAROLINA INSTITUTE FOR BATTERY INNOVATION

De-Risking Battery Manufacturing

Located at the University of South Carolina, the Carolina Institute for Battery Innovation (CIBI) is establishing one of the nation's most advanced battery manufacturing pilot facilities, enabling companies to validate materials and manufacturing processes before commercial production. By integrating pilot-scale production, advanced characterization, workforce development and digital manufacturing capabilities, CIBI bridges the gap between laboratory research and industrial manufacturing.

Scaling South Carolina's Battery Innovation

CIBI secured nearly \$30 million in additional research and equipment funding to expand its pilot manufacturing and testing capabilities. These investments establish a second pilot production line for cylindrical battery cells while significantly increasing South Carolina's long-term battery manufacturing, validation and workforce development capacity.

Such investments are complemented by strategic partnerships with leading technology companies such as Siemens that ensure CIBI's capabilities reflect the technologies, processes and operational needs of modern battery manufacturing. These industry collaborations help shape the facility's design and future capacity, creating a resource that aligns with academic, commercial and national priorities.

SIEMENS

"SC NEXUS plays a vital role in fostering collaboration between technology providers, researchers and manufacturers to strengthen the U.S. battery value chain. Our (Siemens) partnership through CIBI has created valuable opportunities to showcase and advance innovative manufacturing and digitalization solutions that support the growth of the battery industry."

— Vivek Furtado, Head of Battery Vertical at Siemens Industries, Inc.



#3 UNIVERSITY WORLDWIDE FOR BATTERY TECHNOLOGY EDUCATION

Testbed Design and Facility Development

Throughout Fiscal Year 2026, CIBI continued to secure significant investment, begin lab-scale research and development, expand partnerships with industry leaders and complete the planning necessary to begin construction of its pilot-scale battery manufacturing facility, establishing the project's technical, financial foundations and reinforcing the state's position as a hub for battery manufacturing innovation and technology commercialization.

With facility design complete, procurement specifications finalized, equipment packages released for bid and preparations underway for groundbreaking in October 2026, CIBI is now positioned to transition from planning into deployment. These milestones establish the foundation for construction, equipment installation and the activation of a globally significant battery innovation facility.

OCTOBER 2026 – CIBI Facility Groundbreaking

Construction begins on the Carolina Institute for Battery Innovation (CIBI) pilot facility, marking an important step toward expanding South Carolina's battery research, innovation and commercialization capabilities.

APRIL 2027 – Dry Room Operational

The facility's dry room provides the controlled, low-humidity environment required for advanced battery research and cell development. The space will support battery manufacturing, testing and next-generation technology development for researchers and industry partners.

JULY 2027 – CIBI Pilot Facility Completed

The CIBI pilot facility will bring together specialized equipment, research capabilities and collaborative space to support battery innovation.



Economic Development Through Grid Emulation



Emulation Grid Technology Validation

The Economic Development through Grid Emulation (EDGE) project is expanding Clemson University's nationally recognized e-GRID facility through the development of the EDGE Mobile Grid Emulator, creating one of the nation's most advanced platforms for testing next-generation electric grid technologies. Increasing testing capacity from 15 MW to 35 MW, EDGE enables utilities, manufacturers and technology developers to evaluate distributed energy resources and other grid modernization technologies before deployment. The modular, transportable platform extends Clemson's testing capabilities beyond the laboratory, supporting in-field validation across the nation.

Expanding Testing Capabilities

EDGE significantly expands Clemson's future testing capabilities through the development of the EDGE Mobile Grid Emulator, which will become the nation's only mobile grid emulator at multi-MW scale.

Designed as a modular system deployable across four 5 MW flatbed trucks, the platform can be configured to support a wide range of testing requirements and transported directly to customer sites throughout South Carolina and the United States.



"The grid of the future cannot be built by any one organization alone and meeting tomorrow's energy needs will require thoughtful investments in generation, transmission and distribution. Through our partnership with SC NEXUS, we've had the opportunity to work alongside organizations across South Carolina to share expertise, strengthen connections and accelerate innovation. That collaborative approach is helping lay the foundation for a more resilient grid and a stronger energy future for our state."

— Heather Smith, Vice President of Regulatory Affairs at Duke Energy



Operating alongside Clemson University's e-GRID facility and environmental testing capabilities, the EDGE Mobile Grid Emulator will enable advanced energy technologies to be evaluated under realistic electrical and environmental conditions before deployment.

From Laboratory to Field

The EDGE Mobile Grid Emulator brings advanced testing directly to industry. Its transportable design enables utilities, manufacturers, technology developers, military installations, data center operators and other critical infrastructure operators to evaluate grid-connected technologies where they will ultimately operate.

By expanding access to real-world testing environments, EDGE creates new opportunities for collaboration while reducing barriers to technology validation and demonstration.

EDGE will expand Clemson's e-GRID facility into the nation's largest grid emulation platform, providing greater capacity to test and validate energy technologies at scale.

Testbed Development

During Fiscal Year 2026, the project completed the planning and engineering work required to begin procurement and fabrication of the EDGE Mobile Grid Emulator. Design activities focused on integrating the mobile platform with Clemson University's existing e-GRID facility while incorporating modular operation, transportability, environmental testing and commissioning requirements needed to support both laboratory and in-field deployment.

The expanded capabilities, enabled by SC NEXUS, continue to generate strong interest from utilities, manufacturers and technology developers seeking advanced grid testing capabilities. Early collaborations established during Fiscal Year 2026 are positioning EDGE as a national resource for validating next-generation grid technologies upon full operational deployment.

Deployment Timeline

Q4 FY2026 - Mobile Grid Emulator Construction Completed

Construction of the EDGE Mobile Grid Emulator is completed, marking a major milestone in the development of a flexible, field-deployable platform for testing advanced energy and grid technologies.

Q1/Q2 FY2027 - Mobile Grid Emulator On-Site Commissioning

The EDGE Mobile Grid Emulator arrives on-site and enters the commissioning phase. During this stage, the system will undergo installation, integration and performance testing to ensure the emulator is fully connected and ready to support real-world grid research, technology validation and demonstrations.

March 2027 - EDGE Operational Launch

EDGE officially launches operations, providing researchers, industry partners and technology developers with access to a flexible environment for testing and validating emerging grid technologies. The testbed will help identify and address challenges associated with integrating new energy technologies into the electric grid while supporting innovation, collaboration and commercialization.



Grid Enabled Cyber Operations Range

Operational Technology Cybersecurity

The Grid Enabled Cyber Operations (GECO) Range, led by Savannah River National Laboratory (SRNL), is establishing a first-of-its-kind testbed to strengthen the cybersecurity of modern electric grid technologies, expanding SRNL's Supply Chain Risk Management (SCRM) capabilities and enhancing the Medium Voltage Test Bed (MVTB) to evaluate the cyber and physical performance of grid-enabled components. Through operational technology testing and cybersecurity research, GECO works to identify vulnerabilities, validate secure technologies and strengthen the resilience of critical energy infrastructure.

Building a Secure Energy Grid

GECO is establishing a uniquely isolated operational technology (OT) testbed where utilities, manufacturers, government agencies and technology developers can evaluate the cybersecurity of modern electric grid infrastructure before deployment.

Throughout Fiscal Year 2026, SRNL established the foundation for the GECO Range, advancing the infrastructure, equipment and cybersecurity capabilities required to support one of the nation's most advanced operational technology cybersecurity testbeds. The project completed planning and engineering activities, initiated procurement of specialized cybersecurity and communications equipment and expanded the core capabilities needed to evaluate grid-connected technologies under realistic operating conditions.



"Through its partnership with SC NEXUS, PHENOLOGY is leveraging the Grid Enabled Cyber Operations (GECO) Range to explore research and development opportunities that strengthen grid resilience and cybersecurity. We could not have asked for more serendipitous partners to join us in advancing a stronger, more sustainable energy future."

— Suzanne Dickerson, Director of North America at PHENOLOGY Inc.



Design efforts focused on integrating operational technology, grid simulation, artificial intelligence, wireless communications and supply chain risk management into a unified testing environment capable of supporting both research and industry applications.

Strategic Partnerships

GECO continued expanding partnerships with utilities, manufacturers, national laboratories, universities, defense organizations and technology developers to establish a future user community for the cyber range. These collaborations are helping define testing priorities, identify emerging cybersecurity challenges and ensure the facility addresses the evolving needs of the electric power sector.

Industry engagement throughout Fiscal Year 2026 also created new opportunities for collaborative research, technology validation and workforce development while positioning South Carolina as a national leader in operational technology cybersecurity and resilient energy infrastructure.

While the GECO Range moves towards full deployment, SRNL's Supply Chain Risk Management (SCRM) capabilities are already supporting technology validation, cybersecurity assessments and collaborative research with industry partners. These capabilities include Verification of Learning Technologies (VOLT), which evaluates the security of artificial intelligence and machine learning in grid-enabled systems; Wireless Analysis of Threat Technologies (WATT), which identifies cybersecurity vulnerabilities in wireless communications; Grid Environment and Network Simulation (GENS), which validates grid technologies under real-world conditions; and Threat Hunting and Reverse Engineering Application and Technology (THREAT), which evaluates hardware, software, firmware and supply chain security.

Deployment Timeline

JANUARY 2027 – SCRM Reaches Full Operational Capacity

Expanded capabilities for testing, validation and demonstration of advanced energy technologies.

JULY 2027 – GECO Range Launch & Commissioning

New grid cybersecurity test environment begins operations, supporting resilience testing, workforce development and industry collaboration.

Emerging Initiatives in Fiscal Year 2026

Entrepreneurship Innovation Exchange

eiX Venture Studio Program

Advanced energy founders are coming to South Carolina. With three dedicated testbeds and over 300 energy companies already operating in the state, the Entrepreneurship and Innovation Exchange (eiX) Venture Studio is the ideal gateway for entrepreneurs to launch new energy companies.

Through the eiX Venture Studio, technologists and entrepreneurs are placed into teams and paired with a qualified technology. Mentors and industry experts provide guidance in a flexible, 16-week program to explore the potential of launching a new advanced energy technology to market.

Development Through Innovation

The Entrepreneurship and Innovation Exchange (eiX) project, led by South Carolina Research Authority (SCRA) in partnership with NextGEN and FedTech, leverages and connects assets across the existing energy innovation ecosystem within the SC NEXUS Tech Hub. By fostering innovation through entrepreneurship, the program aims to accelerate the development of new energy technologies, support testing and commercial deployment and help businesses refine solutions while reducing barriers to entry.

Candidate Pipeline Supporting Technology Development



82

APPLICATIONS
RECEIVED



60

CONSIDERED FOR
INTERVIEWS



23

BRINGING OWN
IP TO PROGRAM

The strong level of interest is a clear indicator of the depth of technology and entrepreneurial talent being cultivated in South Carolina. This pipeline gives eiX an opportunity to connect promising technologies with industry expertise, customers and investment, helping turn breakthrough ideas into deployable solutions and economic growth. It also demonstrates the state's growing ability to attract innovators and create pathways for emerging energy technologies to move from the lab to the marketplace.



eiX Venture Studio Deployment Timeline

SEPTEMBER 2026 — Phase 2 Studio
Participants enter the first two phases of the Venture Studio, moving from initial concept development and validation toward more defined business and commercialization strategies. Teams work with mentors, industry experts and other partners to test assumptions, refine their technologies and identify viable market opportunities.

DECEMBER 2026 — Final Technical Showcase
The Venture Studio culminates in a final technical showcase where participating teams present their technologies, progress and commercialization opportunities. The showcase provides an opportunity to connect emerging ventures with industry partners, investors and other stakeholders who can help support their continued development.

JANUARY 2027 — eiX Accelerator
Selected ventures advance into the eiX Accelerator, receiving focused support to accelerate technology development, business growth and market readiness.



“After 25 years across the Navy, federal labs and industry, I’ve seen too much good technology never leave the building. eiX puts the inventor at the table and makes finding the customer the whole job. That’s the piece that’s usually missing.

— Scott Miller, Entrepreneur of SC NEXUS eiX Venture Studio



Photo: Santee Cooper, Interior of the Fairfield nuclear containment building

Positioning South Carolina for the Nuclear Evolution

South Carolina remains one of the nation's leading nuclear states, generating more than half of its electricity from nuclear energy while supporting the country's largest nuclear energy workforce. SC NEXUS works alongside state partners to strengthen the ecosystem needed to support the next generation of nuclear technologies and manufacturing.

Advancing South Carolina's Nuclear Industry

Convening Connecting

SC NEXUS brings together utilities, manufacturers, research institutions and state partners to strengthen collaboration, identify shared priorities and accelerate opportunities across South Carolina's nuclear industry.

Attracting Investment Industry

Supporting strategic engagements, supplier development and business attraction efforts, SC NEXUS helps position South Carolina to capture investment across the nuclear value chain.

Developing Workforce

Working alongside employers, technical colleges, universities and workforce partners, SC NEXUS is strengthening talent pipelines to meet the growing demand for skilled workers across the nuclear sector.

Driving Strategic Leadership

Through engagement with state partners, industry organizations and national initiatives, SC NEXUS is helping position South Carolina as a leader in the next generation of nuclear energy and manufacturing.



Generation

Produces 54% of the state's total electric generation.

Home to seven nuclear reactors across four sites.



Industry

Fabricates HALF of the nuclear fuel deployed across the U.S.

More than 35 firms across more than 70 locations.



Research

Home to three universities featuring nuclear research capabilities.

More than 35 firms across more than 70 locations.



Workforce

No. 1 state for nuclear energy employment nationally.

Over 16,000 jobs across the industry.



"At Amentum, we are proud to contribute our expertise across the energy lifecycle — from advanced nuclear engineering and new reactor technologies to operations, infrastructure modernization and environmental stewardship. Partnerships like SC NEXUS are critical to accelerating innovation, strengthening energy resilience and building the workforce and industrial capabilities needed to support America's growing energy and national security priorities."

— Rob Roxburg, Vice President for Marketing and Communications at Amentum



SC NEXUS Executive Director Cristina Long Paredes and Savannah River National Laboratory Director of Industrial and Strategic Partnership Dr. Daren Timmons join U.S. Secretary of Energy Christopher Wright at the Advanced Manufacturing Collaborative in Aiken, South Carolina.



Eric Smith delivers the keynote speech at the SC NEXUS Energy Innovation Summit Showcase.



SC NEXUS at the Benchmark Giga USA 2025 in Washington, D.C., highlighting the state's growing role in battery innovation, critical minerals and energy technology.



From Foundation to Deployment

Our Path Forward

During its first two years, SC NEXUS established the partnerships, infrastructure and foundation needed to strengthen South Carolina's advanced energy sector. The next phase will focus on translating those investments into the deployment of assets, expanded industry engagement and long-term economic growth.

In the coming year, SC NEXUS will bring its testbeds and other shared assets into full operation while expanding opportunities for companies, utilities and research partners to access and utilize these resources. At the same time, the initiative will continue strengthening industry-aligned workforce pipelines to meet growing demand for high-skill employment and ensure South Carolina has the talent needed to support continued growth.

Deeper partnerships with industry, utilities, research institutions and federal agencies will create new opportunities for collaboration, commercialization and investment. By pairing these relationships with business attraction, support for existing companies, supplier development and market growth, SC NEXUS will help generate lasting economic impact while advancing South Carolina's position as a national leader in the development, testing and deployment of next-generation energy technologies.





Santee Cooper Winyah Generating Station located in Georgetown, SC.

Strategic Priorities

As energy demand grows and new technologies reshape the nation's power system, South Carolina has an opportunity to strengthen its role in the development, testing and deployment of advanced energy solutions. SC NEXUS is entering its next phase with the infrastructure, partnerships and programs needed to move more technologies from research into real-world application while creating long-term value for South Carolina.

National Security

A strong domestic energy sector is increasingly important to national security. Reducing reliance on foreign sources for critical materials, technologies and components requires greater domestic manufacturing capacity, more secure supply chains and the ability to validate new technologies before they are deployed. Through initiatives such as battery manufacturing, grid technology testing and operational technology cybersecurity, SC NEXUS is helping build the capabilities needed to strengthen critical energy infrastructure, reduce supply chain vulnerabilities and support greater national resilience and readiness.

Energy Security

Reliable and affordable energy will be essential to supporting South Carolina's continued population and industrial growth. SC NEXUS is helping address that challenge by creating environments where utilities, manufacturers, researchers and technology developers can test emerging solutions under realistic operating conditions. As the CIBI, EDGE and GECO testbeds move toward full operation, these resources will provide new opportunities to improve grid reliability, strengthen cybersecurity, expand domestic energy capacity and accelerate the deployment of technologies that can support a more resilient energy system.

Economic Competitiveness

The investments that strengthen energy and national security also create opportunities for economic growth. By connecting advanced research, specialized testing infrastructure, workforce development, entrepreneurship and industry, SC NEXUS is helping reduce barriers between innovation and commercialization. Continued investment in workforce pipelines, supplier development, technology commercialization and business attraction will help existing companies grow, create opportunities for new companies to enter the market and position South Carolina to compete for the jobs, investment and industries that will shape the next generation of the advanced energy economy.

Organizational Alignment

As SC NEXUS enters its next phase, we are aligning our structure and operations to better support strategic market development and business attraction opportunities. This evolution will strengthen collaboration across our programs while improving our ability to respond quickly to emerging opportunities and deliver long-term value for South Carolina.



Greenwood Commissioner of Public Works One Voltage Substation

NOTES



SC NEXUS

Building South Carolina's advanced energy future.

SC NEXUS for Advanced Resilient Energy
South Carolina Department of Commerce
sccommerce.com/scnexus



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