SPECIAL REPORT

ENERGY

CONCEPT BECOMING REALITY?

How Small Modular Reactors Could Help Address South Carolina's Growing Energy Challenges and Secure Our Economic Future

SPENCER BOEH

SEPTEMBER 2026

PALMETTO PROMISE INSTITUTE

P.O. Box 12676 | Columbia, SC 29211 | 803-708-0673

I. INTRODUCTION

Small Modular Reactors (SMRs) and nuclear microreactors have entered a pivotal stage of development and are now being actively demonstrated and financed by governments and private industry. Recent developments abroad and in the United States indicate that unique, advanced nuclear energy solutions are transitioning from research and pilot projects toward commercial implementation.

Three converging trends explain this momentum. First, the U.S. Department of Defense has become the nation's leading early proponent of microreactors, viewing resilient on-site nuclear generation as critical to national security and military readiness. Second, artificial intelligence (AI) data centers, manufacturing, and population growth are prompting both the public and private sector to seek new power sources and energy technologies. Third, governments around the world are increasingly recognizing SMRs as a cornerstone of long-term energy security and economic competitiveness.

At the national level, the United States Army and Air Force are sponsoring demonstration projects to provide resilient power for military installations. These efforts build on earlier initiatives such as Project Pele and reflect a broader strategy to strengthen energy resilience for critical infrastructure.

Commercial momentum is also accelerating. Companies such as NuScale continue expanding agreements for future SMR deployment, while TerraPower received federal approval to begin construction of its first advanced reactor project, an important regulatory milestone for the broader advanced nuclear industry.

Internationally, countries including Poland and Sweden are incorporating SMRs into long-term energy strategies. These projects reflect a broader international recognition that advanced nuclear technologies can complement traditional nuclear and natural gas generation while strengthening energy security.

Various pressures, similar to those seen globally, are increasing South Carolina’s demand for electricity and interest in alternative nuclear technologies.

Recent developments suggest the state is already becoming part of the emerging SMR economy. Nuclear startup Antares has established operations

in Aiken, South Carolina, to take advantage of the region's experienced nuclear workforce and proximity to the Savannah River Site (SRS). According to company leadership, South Carolina offers the technical expertise and industrial base necessary to support commercialization of advanced microreactors.

For South Carolina, these developments represent more than technological progress; they represent a strategic economic opportunity. Whether SMRs ultimately become a major component of South Carolina's energy portfolio will depend on regulatory policy, investment decisions, and future technological maturation.

In this paper, we provide an update to our original SMR report, “Small Modular Reactors: An Answer to South Carolina’s Energy Crisis?,” July, 2024.

BENEFITS OF SMALL MODULAR REACTORS (SMRS)

LOWER COSTS

Due to their compact design, the modular components have significantly lower construction costs than conventional power reactors.

LOWER CONSTRUCTION TIME

SMRs can be built in smaller units, allowing phased development that spreads out capital expenditures over time, rather than requiring massive upfront investments.

LOCATION FLEXIBILITY

SMRs are able to be installed into an existing grid or remotely, off-grid due to its smaller electrical output. They also take up fewer square miles than wind and solar.

SAFETY

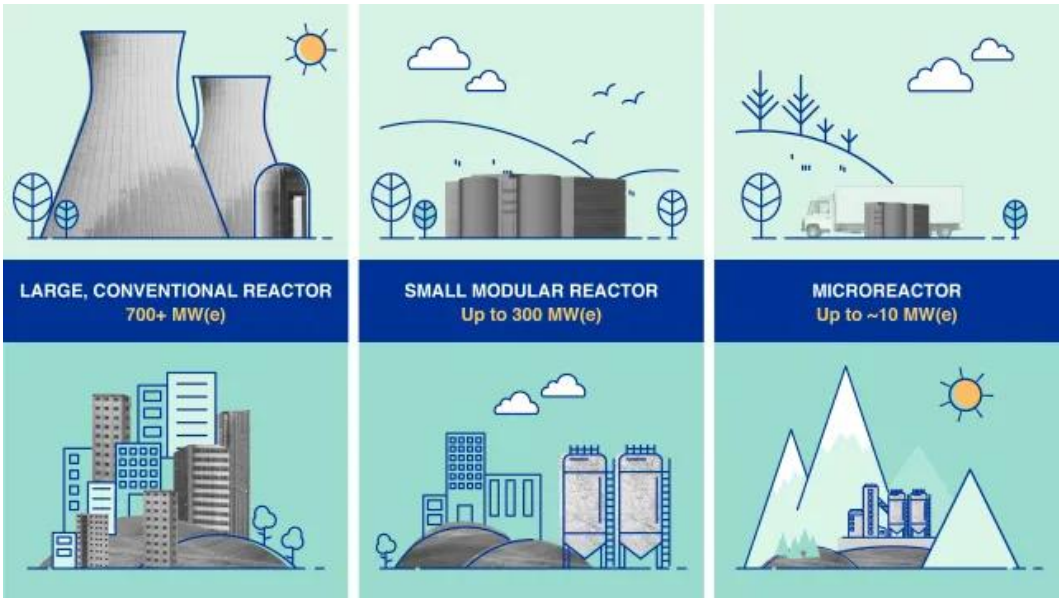
Modern SMRs have inherent safety systems, including passive shut down mechanisms, built into their hardware that significantly reduce the risk of accidents.

FUEL DEMANDS

SMRs are more viable for independent consumers and demand less fuel than full-size nuclear plants.

PALMETTO PROMISE

II. THE EMERGING ROLE OF SMALL MODULAR REACTORS AND NUCLEAR MICROREACTORS



From Future Technology to Nearer-Term Energy Solution

For decades, nuclear power in the United States has been defined by large-scale reactors capable of generating more than 1,000 megawatts (MW) of electricity. The Oconee Nuclear Station near Seneca, S.C. has a total net capacity of over 2,500 MW.

While such facilities have provided substantial generation, recent projects, including V.C. Summer II and III in South Carolina and Vogtle in Georgia, have been marred by long construction timelines, extreme cost overruns, and regulatory clashes. These historical challenges have hindered new reactor construction despite growing demand for reliable baseload electricity.

Small Modular Reactors (SMRs) represent an entirely different approach to nuclear energy generation. Rather than relying on large, site-built generating stations, SMRs are designed to be partially prefabricated, transported to project sites, and assembled using standardized components. Most SMR designs produce up to 300 MW of electricity per unit. Microreactors, a similar technology, can generate between one and 20 MW and are intended to serve military installations, remote communities, industrial facilities, or other customers requiring localized, resilient power.

Although many reactor designs remain under development, the industry has entered a new phase characterized by commercial interest, which is an indicator of imminent deployment rather than purely conceptual research. Momentum has shifted quickly, even since Palmetto Promise Institute first advocated SMRs just two years ago (July, 2024).

Unlike traditional nuclear plants, SMRs are intended to be deployed incrementally. Utilities and industrial customers may add generating capacity in stages as demand increases, reducing the financial risks associated with constructing massive, capital-intensive facilities. Many developers also contend that factory fabrication and standardized designs could shorten construction schedules and improve cost predictability compared with conventional projects.

On the public side, the U.S. Department of Defense has emerged as an early customer for microreactor technology, seeking resilient energy supplies for military installations. Defense officials have indicated that these projects are intended to improve installation energy security.

At the same time, private companies continue advancing commercial reactor designs. In March 2026, TerraPower received federal approval to begin construction of its first advanced reactor project, marking an important regulatory milestone for the broader advanced nuclear sector. While TerraPower's reactor is not classified as a conventional light-water SMR, the approval demonstrates regulatory progress for new nuclear technologies. These provide a framework for South Carolina to follow in promoting its own SMR development.

III. RECENT DEVELOPMENTS IN THE UNITED STATES: MILITARY & PRIVATE VENTURES

Planned U.S. Deployment of SMRs and Microreactors

Although most SMR and microreactor designs have not yet reached widespread commercial operation, recent actions by the U.S. Department of Defense, the Department of Energy, reactor developers, and utilities indicate growing confidence that new nuclear systems may fill important roles in future energy infrastructure.

The new U.S. approach differs from traditional nuclear development. Instead of relying exclusively on utility-led construction of large reactors, private

companies are investing in reactor designs, and industrial users are seeking dedicated sources of reliable electricity for their plants and facilities.

The Department of Defense Adoption of Microreactors

The United States Navy led the way in small nuclear reactors, with the launch of the *USS Nautilus* nuclear submarine in 1954. There are now approximately 140 nuclear submarines serving in six national navies. About half of these fly the American flag.

One of the most significant recent developments in the U.S. advanced nuclear sector has been the Department of Defense's decision to pursue microreactors for military installations. Military facilities require highly reliable electricity to support communications, weapons systems, cybersecurity operations, logistics, and other critical missions. Many installations currently depend on private, commercial electricity grids supplemented by backup generators. Defense officials have identified energy resilience—the ability to continue operating despite grid disruptions—as a strategic priority.

The U.S. Air Force's **Advanced Nuclear Power for Installations (ANPI)** initiative represents one of the clearest examples of government-backed microreactor deployment efforts. The initiative seeks to deploy contractor-owned and operated nuclear microreactors at Air Force installations. According to the Air Force, the goal is to strengthen energy security.

In April 2026, the Department of the Air Force announced that Buckley Space Force Base in Colorado and Malmstrom Air Force Base in Montana had been selected as potential locations for microreactor projects under ANPI. The Air Force later announced Joint Base San Antonio, Texas, as an additional potential site and selected three companies, Radiant, Westinghouse Government Services, and Antares, to potentially develop and operate microreactors under the initiative.

Furthermore, the Army has expressed similar interest in using small reactors for military operations. The Army's approach is based on the premise that future military operations may require energy sources that are less dependent on vulnerable fuel supply chains and centralized electrical grids. The National Interest reported that Army officials view microreactors as a potential tool for improving energy security.

In February 2026, the Department of Defense transported a Valar Atomics Ward microreactor system by aircraft from California to Hill Air Force Base in

Utah. The reactor was transported as part of a demonstration intended to show that compact nuclear systems could be rapidly deployed. Reuters reported that the demonstration was designed to advance the concept of quickly deploying nuclear power for military and civilian applications.

It is this versatility that microreactor developers often emphasize as one of the technology's primary advantages. Citing applications such as:

- military installations,
- remote industrial sites,
- disaster response,
- isolated communities,

Commercial SMRs: NuScale and TerraPower

NuScale Power remains one of the most prominent U.S. SMR developers. The company has promoted its modular reactor design as a scalable nuclear option for utilities and industrial customers. Recent reporting has highlighted NuScale's agreements and partnerships aimed at expanding future deployment. The company has also emphasized that rising electricity demand from AI, data centers, and industrial growth is increasing interest in new sources of generation. These statements reflect NuScale's aggressive commercial outlook and should be viewed as company projections rather than confirmed deployment outcomes.

The company's future success will depend on regulatory approvals, financing, customer commitments, and the ability to demonstrate cost competitiveness.

TerraPower, founded with support from Microsoft co-founder Bill Gates, represents another major advanced nuclear effort.

The company received federal approval to begin construction of its Natrium advanced reactor project, representing a significant milestone for the advanced nuclear industry. The project is not a conventional SMR but is part of the broader movement toward smaller, advanced reactor technologies.

SMRS & MICROREACTORS

RECENT EVENTS

JUN, 2007	Founding of NuScale Power, one of the current U.S. leaders in SMR technology.
DEC, 2016	NuScale submits their original 50 MWe SMR design for approval to the U.S. Nuclear Regulatory Commission (NRC)
DEC, 2019	Akademik Lomonosov, 2 floating SMRs start operating in Russia.
AUG, 2020	NuScale's 50 MWe SMR design is approved by the NRC.
DEC, 2021	HTR-PM, an SMR facility in China starts operating.
MAY, 2025	Four BWRX-300 reactors are approved for construction in Ontario Canada.
AUG, 2025	Swedish power company Vattenfall initiates selection process for new nuclear project
NOV, 2025	Planning begins for a 3 SMR project in Northern Wales in the U.K.
FEB, 2026	Poland Generic Design Agreement is signed and their BWRX-300 SMR design is advanced.
FEB, 2026	Microreactor transported via plane to Hill Air Force Base.
APR, 2026	Swedish power company Vattenfall selects Rolls-Royce design to construct three SMRs
JUN, 2026	Buckley and Malmstrom Air Force Bases are selected as potential microreactor sites.

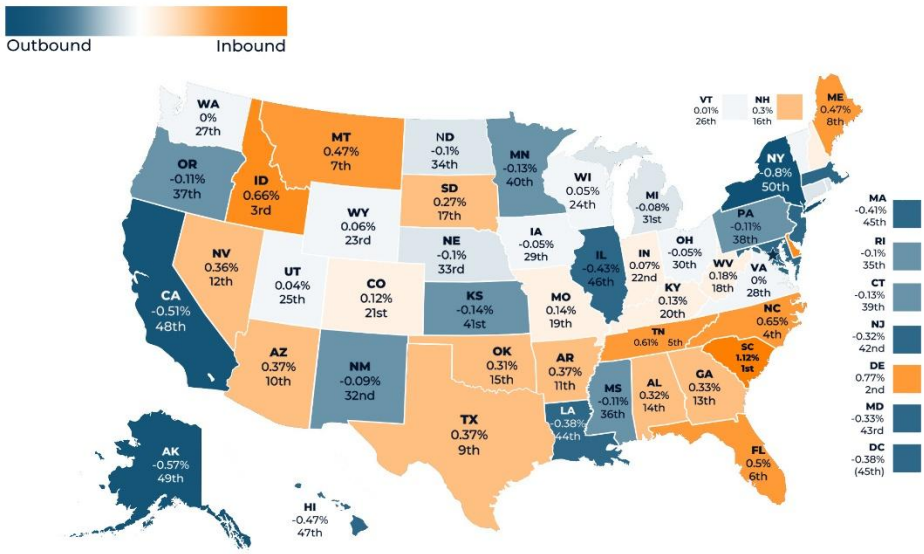
IV. AI, DATA CENTERS, AND NEW ELECTRICITY DEMAND

South Carolina's Increasingly Strained Electric Grid

The challenge of meeting electricity demand is not limited to industrial and commercial customers. South Carolina's population growth is also contributing to increased residential demand for energy infrastructure.

State Population Changes Attributable to Interstate migration (FY 2025)

State Net Population changes from interstate, from most inbound to most outbound, FY 2025



Population changes are rounded to the hundredths, but ranks are based on unrounded Census figures. D.C. does not affect rankings.
Source: The U.S. Census Bureau; The Tax Foundation

South Carolina has experienced significant population increases driven in part by interstate migration. Data compiled by the Tax Foundation show South Carolina among the states experiencing substantial net migration gains.

Population growth affects electricity demand in several ways:

- more residential electricity consumption
- increased commercial development
- expanded infrastructure needs
- and greater demand from businesses serving growing communities.

The Growing Challenge of Supplying Reliable Electricity

The rapid expansion of artificial intelligence has become one of the most significant drivers of projected electricity demand growth. AI systems require

large-scale computing infrastructure and data centers. These facilities consume substantial amounts of electricity for computers, cooling systems, and support facilities.

Recent reporting by *The New York Times* examined how technology companies are increasingly exploring alternatives to traditional grid connections because they are concerned that existing electricity infrastructure may not expand quickly enough to support growth.

One solution is to allow data centers and other large users of electricity to provide their own generation, which would relieve pressure on the grid and take a bold step toward freeing all generation from monopoly utility control. Rather than seeing "bring your own generation" as a threat, tech companies could very well be relieved to be in a sense "off the grid."

Why Reliable Power Matters for Development

Electricity availability has historically been an important consideration for industrial recruitment. However, the speed of growth in modern electricity demand is changing how companies evaluate locations.

Large industrial and technology users increasingly seek:

- reliable electricity availability
- predictable long-term energy costs
- resilience against outages

Nuclear energy has historically met all of these challenges. Existing baseload nuclear plants operate as sources of generation, and advanced nuclear developers argue that SMRs could provide similar reliability with smaller-scale deployment options.

Companies developing SMRs have identified data centers and industrial customers as potential customers. NuScale Power, for example, has stated that rising electricity demand from AI and data centers is increasing interest in modular nuclear technology.

The South Carolina Energy Office and state energy stakeholders have identified growing electricity demand as an important planning issue. Reporting from the *South Carolina Daily Gazette* has highlighted discussions regarding the state's future energy needs and the importance of expanding generation resources to support continued economic growth.

Smaller Project Scale

SMRs are intended to be deployed in smaller increments than traditional nuclear plants. Supporters argue that this could allow utilities and industrial customers to add capacity as demand grows.

Location Flexibility

Microreactors are being designed for locations where traditional power infrastructure may be limited or where energy resilience is especially important.

V. INTERNATIONAL INTEREST IN SMRS

A Global Shift Toward Advanced Nuclear Energy

The renewed interest in Small Modular Reactors (SMRs) is not limited to the United States; in fact, other nations may be slightly ahead. Governments and energy companies around the world are exploring SMRs as part of broader strategies to strengthen energy security, reduce dependence on imported fuels, and support industrial development.

Countries pursuing SMRs vary significantly in their energy circumstances. Some are seeking alternatives to coal, others are attempting to reduce dependence on imported fuels, and others are responding to growing electricity demand from industrial development and emerging technologies. Despite these differences, a common theme has emerged: governments increasingly view advanced nuclear technologies as a potential complement to existing generation resources.

International SMR projects vary in status from being in regulatory review, seeking financing, or being in early development. While no single international model has yet demonstrated large-scale deployment of SMRs, recent announcements show growing interest among governments and utilities.

Poland: SMRs as Part of an Energy Security Strategy

Poland has emerged as one of Europe's most active supporters of SMR development. For decades, Poland has relied heavily on coal for electricity generation. However, the country has pursued nuclear energy as part of a strategy to diversify its electricity supply and strengthen energy independence. Polish companies and government officials have explored SMRs as a complement to planned large nuclear projects. According to reporting from *World Nuclear News*, Polish developer Orlen Synthos Green Energy has sought state support for multiple SMR projects based on GE Hitachi's BWRX-300 reactor technology. However, Poland's SMR plans remain subject to regulatory approval, financing decisions, and successful project execution.

Sweden: Advanced Nuclear Energy and Industrial Competitiveness

Sweden has also become increasingly interested in nuclear technologies. While Sweden's electricity system already includes significant nuclear generation. Recent discussions around additional nuclear development have been driven by rising electricity demand, industrial expansion, and concerns about long-term reliability. In 2026, Swedish utility Vattenfall announced that it selected Rolls-Royce SMR technology for a potential future nuclear project.

Further European Interest in Smaller Nuclear Technologies

Beyond Poland and Sweden, several European countries have expressed interest in SMRs as part of broader energy strategies. European governments have increasingly emphasized energy security following disruptions in global fuel markets. Namely, the energy crisis following Russia's invasion of Ukraine which disrupted supply chains and diplomatic interests.

However, the European market faces many of the same challenges as the United States:

- regulatory complexity
- financing uncertainty
- supply chain development
- workforce requirements
- competitive costs.

Global SMR Interest

Industry assessments show increasing global interest in SMRs, visual summaries of global SMR activity show projects in North America, Europe, and Asia, reflecting broad interest among nations

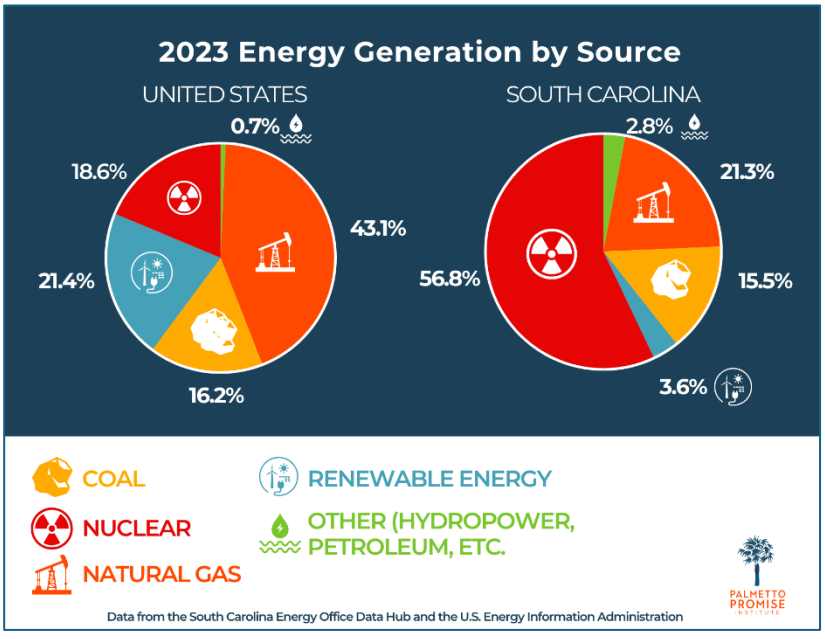
Countries pursuing SMR technologies include:

- United States
- Canada
- the United Kingdom
- Poland
- Sweden
- China
- Others

International developments demonstrate that SMRs have become a significant component of long-term energy planning in multiple countries. Poland, Sweden, and other European nations are evaluating advanced nuclear technologies as tools for energy security, economic competitiveness, and emissions reduction.

VI. Positioning South Carolina as a Growth Hotspot

South Carolina has traditionally been comfortable with nuclear power. The state is home to four plants (seven reactors) generating a total of 6,875 MW, leading to the Palmetto State being one of the states with the highest percentage of generation from nuclear sources.



Moving From Opportunity to Strategic Planning

Small Modular Reactors (SMRs) and nuclear microreactors present South Carolina with a potential economic and energy opportunity. The state already possesses many of the assets that nuclear projects require: an experienced nuclear workforce, existing nuclear infrastructure, manufacturing capabilities, research expertise, and communities familiar with nuclear operations.

However, realizing the potential benefits of SMRs will require deliberate planning. Advanced nuclear technologies are still undergoing commercialization, and successful deployment will depend on factors beyond technology development alone. Regulatory approvals, financing, workforce availability, and public acceptance will all influence whether SMRs become a meaningful part of South Carolina's future energy portfolio.

The appropriate approach is not to assume that SMRs will solve every energy challenge, but to ready South Carolina to maximally benefit from the successes of SMR development.

Supporting Regulatory and Permitting Readiness

Advanced nuclear deployment requires coordination among federal, state, and local stakeholders. The Nuclear Regulatory Commission (NRC) is responsible for licensing commercial nuclear facilities, while state and local governments influence areas such as:

- land use
- economic incentives
- workforce programs
- infrastructure planning
- community engagement

South Carolina can prepare by ensuring that state institutions understand emerging reactor technologies and are positioned to support responsible development.

Potential actions include:

- Communication between state agencies and reactor developers

- Providing technical education about advanced reactors
- Coordinating with utilities and economic development organizations
- Educating communities with accurate information about nuclear technologies

Preparation does not guarantee deployment, but it can reduce barriers if projects move forward.

Nuclear Energy as an Economic Development Amplifier

Access to affordable and reliable electricity is an increasingly important factor in industrial development decisions. AI data centers and manufacturing facilities need cheaply available energy to establish operations.

South Carolina hosts a number of advanced industrial industries and competes with other nearby states to host further industrial development. These industries include:

- semiconductor manufacturing,
- electric vehicle supply chains,
- aerospace industries,
- technology companies,
- and advanced manufacturing facilities.

To attract more firms, or to increase the strength of South Carolina's current industrial footprint, advanced nuclear technologies may offer energy prices that entice companies to break ground in South Carolina, especially as some firms are considering investing in private energy solutions just to keep up with demand. Energy infrastructure may increasingly influence which states attract future industries.

Maintaining Public Confidence and Community Engagement

Public support will be essential for successful nuclear development. While South Carolina has significant experience with nuclear facilities, it also has an uneasy relationship with new projects. The failed VC Summer Plant expansion certainly damaged public faith in the capability of local producers to complete nuclear projects. Thus, new nuclear ventures will need to regain lost

faith and assure customers with clear communication about costs and timelines.

Position the State as an Advanced Nuclear Hub

The state should leverage existing assets, including the Savannah River Site, universities, and manufacturing capabilities, to hasten new nuclear project completion. The University of South Carolina's plans to establish a Nuclear Innovation Center in the Molinaroli College of Engineering & Computing is a step in the right direction toward this end.

Coordinate Energy and Economic Development Planning

Future industrial recruitment efforts should consider electricity availability as a core economic development issue. Executive orders from Virginia Governor Youngkin during his administration and Governor Sanders of Arkansas are examples of rallying a state in the direction of support for energy innovation.

Monitor SMR Progress

South Carolina should remain engaged with the SMR industry and ensure that project timelines can be met.

SIGNIIFICANT SMR & MICROREACTOR PROJECTS

WYOMING (2026) *NATRIUM*
A TerraPower/GE/Hitachi SMR project, construction began April 2026

TENNESSEE (2025) *HERMES*
The Kairos 1 reactor construction began in May of 2025, and Kairos 2 began in April 2026

TENNESSEE (2026) *OAK RIDGE*
A BWRX-300 SMR project, licensing is still underway with the NRC

MICHIGAN (2026) *PALISADES*
A two-unit SMR project for which permits were approved in February 2026

TEXAS (2026) *XE-100*
An SMR project, design and engineering plans are still under review by the NRC

UTAH (2026) *HILL AFB*
A recent demonstration of an air-transportable Ward-250 Microreactor

D.O.D. (2016) *PROJECT PELE*
A Dept. of Defense project with the goal of creating transportable microreactors for varied uses. most work is being done at the Idaho National Labs

CZECH REPUBLIC (2026) *TEMELIN SMR*
An SMR project which is still in the engineering and planning phase

U.S. AIR FORCE (2024) ANPI PROGRAM
A USAF project to develop and deploy commercial microreactors on bases. Partners include Antares, Radiant, and Westinghouse

U.S. ARMY (2025) *JANUS PROJECT*
A U.S. Army project to install microreactors on bases. 9 bases have been named as candidate locations

ONTARIO, CANADA (2025) *DARLINGTON*
A 4-unit SMR project which began construction in April of 2026

WALES, UK (2025) *WYLFA*
A 3-unit SMR project in the United Kingdom. 70% of contract money has been given to local industry, construction has not yet started

SWEDEN (2026) *VATTENFALL*
A 3-unit SMR project for which Rolls-Royce was selected as supplier, the project has been planned

POLAND (2026) *ORLEN SYNTHOS*
A national initiative to build SMRs in Poland to decrease reliance on fossil fuels, still in the planning stage.

PALMETTO PROMISE

VII. CONCLUSION: THE STRATEGIC CASE FOR SMRS IN SOUTH CAROLINA

Preparing for a New Era of Energy Demand

South Carolina stands at an important point in its history. The state is experiencing significant population growth, attracting scores of new industries, and competing for investments in manufacturing, technology, and advanced infrastructure. These trends create substantial economic opportunities, but they also increase pressure on the state's electricity grid.

Reliable electricity and adequate capacity have become key requirements for economic growth. Residential expansion, industrial and commercial development, AI data centers, and manufacturing are all dependent on maintaining power systems capable of supporting current demand and scaling to accommodate future growth.

Small Modular Reactors and microreactors pose one potential solution to addressing this challenge.

National Movement Toward More Nuclear Energy

Recent developments demonstrate that SMRs and microreactors are moving beyond theoretical concepts and becoming part of national energy discussions. The U.S. Department of Defense has emerged as an early adopter of microreactor technology, exploring how small nuclear systems could improve energy resilience at military installations. The Department of the Air Force has advanced efforts to evaluate microreactor deployment at selected bases, while federal demonstrations have explored the feasibility of transporting compact nuclear systems for future applications.

Commercial energy developers are also advancing SMR and advanced reactor concepts. NuScale Power continues pursuing commercialization pathways for its modular reactor design, while TerraPower's federal approval to begin construction of its Natrium advanced reactor represents a significant milestone for the broader advanced nuclear industry.

Internationally, countries including Poland and Sweden are evaluating SMRs as part of strategies focused on energy security, industrial competitiveness, and long-term electricity reliability.

South Carolina's Unique Position

South Carolina is well positioned to participate in this emerging industry.

The state already possesses many of the capabilities needed to support advanced nuclear development:

- Established nuclear workforce
- Research and engineering expertise
- Manufacturing capacity

  The Savannah River Site

These advantages have already attracted interest from advanced nuclear companies such as Antares.

South Carolina's opportunity extends beyond hosting reactors. The state could potentially participate in the broader advanced nuclear supply chain through engineering, manufacturing, construction, maintenance, and workforce development. Our institutions of higher learning stand ready to provide the intellectual energy.

Meeting the Challenge of Growth

The importance of expanding South Carolina's energy capability is heightened by demographic and economic trends.

The state has experienced significant population growth, including substantial interstate migration gains.

SMRs as an Opportunity, Not a Guarantee

The case for SMRs in South Carolina is not that they represent a single solution to every energy challenge. Instead, they represent an additional option that could complement the state's existing energy resources.

Potential benefits include:

Grid Reliability

SMRs could provide firm, continuous electricity generation that supports reliability as demand increases.

Economic Development

Advanced nuclear projects could create high-skilled jobs and strengthen South Carolina's position in emerging energy industries.

Industrial Competitiveness

Reliable electricity could help attract businesses that require consistent, large-scale power supplies.

Strategic Energy Independence

Nuclear energy can reduce dependence on fuel sources subject to global market volatility.

However, these benefits depend on successful commercialization. SMRs must demonstrate that they can be deployed safely, efficiently, and economically.

The Path Forward

The South Carolina General Assembly has the opportunity to amplify the state's prosperity by laying groundwork that will support nuclear development. Key elements of that groundwork should include:

1. **Supporting nuclear workforce development**
   Ensuring that universities, technical colleges, and training programs can provide the skilled workforce needed for advanced nuclear projects.
2. **Utilizing the existing nuclear ecosystem**
   Leveraging existing assets such as the Savannah River Site, research institutions, and manufacturing capabilities.
3. **Predicting economic development**
   Recognizing that electricity availability is becoming a determining factor in attracting future industries.
4. **Monitoring SMR commercialization**
   Remaining engaged with emerging technologies while evaluating projects based on cost, safety, reliability, and demonstrated performance.

A Final Assessment

South Carolina's future economic success will depend in part on whether its energy infrastructure can keep pace with growth, and much of that is dependent upon smart governance. The state's expanding population, industrial investment, and technology sector are creating new power issues that will require long-term planning.

By preparing today, South Carolina can position itself not only as a consumer of advanced nuclear technology, but potentially as a leader in implementing the next generation of nuclear energy solutions, and an ideal destination for prospective industries.

Sources & Suggested Reading

European Commission. "Small Modular Reactors Explained." Accessed July 10, 2024. **https://energy.ec.europa.eu/topics/nuclear-energy/small-modular-reactors/small-modular-reactorsexplained_en/.**

John Locke Foundation. "Energy Crossroads." Accessed July 10, 2024. **https://www.johnlocke.org/research/energy-crossroads/.**

Marketplace. "Inside a Portable Nuclear Reactor Company." April 9, 2026. **https://www.marketplace.org/story/2026/04/09/inside-a-portable-nuclear-reactor-company.**

New York Times. "Data Centers Are Turning to Gas Generators as Energy Demand Surges." March 18, 2026. **https://www.nytimes.com/interactive/2026/03/18/business/energy-environment/data-center-energy-gas-generators.html.**

New York Times. "TerraPower Gets Construction Permit for Advanced Nuclear Reactor." March 4, 2026. **https://www.nytimes.com/2026/03/04/climate/nuclear-power-terrapower-construction-permit.html.**

NuScale Power. "Home." Accessed July 10, 2024. https://www.nuscalepower.com/en.
Ontario Power Generation. "Darlington Small Modular Reactor." Accessed September 14, 2026. **https://www.opg.com/projects-services/projects/nuclear/smr/darlington-smr/.**

Post and Courier. "Aiken Chamber of Commerce Discusses Antares Nuclear Microreactors." Accessed September 14, 2026. **https://www.postandcourier.com/aikenstandard/news/local/aiken-chamber-of-**

commerce-antares-nuclear-microreactors/article_4bfb381e-2dc1-47c3-9f3a-df626e63da6c.html.

Post and Courier. "Spartanburg Data Center, Northmark Power, and Tax Issues." Accessed September 14, 2026. **https://www.postandcourier.com/spartanburg/news/spartanburg-sc-data-center-northmark-power-tax/article_c3e02eef-fe42-4fda-9bd6-df50ec79a3ed.html.**

Reuters. "Sweden's Vattenfall Picks Rolls-Royce SMR for Nuclear Power Project." June 15, 2026. **https://www.reuters.com/business/swedens-vattenfall-picks-rolls-royce-smr-nuclear-power-project-2026-06-15/.**

Reuters. "U.S. Conducts First Air Transport of Nuclear Microreactor in Bid to Show Technology's Potential." February 16, 2026. **https://www.reuters.com/business/energy/us-conducts-first-air-transport-nuclear-microreactor-bid-show-technologys-2026-02-16/.**

Rolls-Royce. *Small Modular Reactors (SMR) Brochure*. July 2017. Accessed July 10, 2024. **https://www.rolls-royce.com/~/media/Files/R/Rolls-Royce/documents/customers/nuclear/smr-brochurejuly-2017.pdf.**

Rolls-Royce SMR. "Rolls-Royce SMR." Accessed September 14, 2026. **https://www.rolls-royce-smr.com.**

Task & Purpose. "The Air Force Is Looking at Nuclear Reactors for Its Bases." Accessed September 14, 2026**. https://taskandpurpose.com/news/air-force-bases-nuclear-reactors/.**

U.S. Department of Energy, Office of Nuclear Energy. "Benefits of Small Modular Reactors (SMRs)." Accessed July 10, 2024. **https://www.energy.gov/ne/benefits-small-modular-reactors-smrs.**

World Nuclear Association. "Small Modular Reactor (SMR) Global Tracker." Accessed September 14, 2026. **https://world-nuclear.org/information-library/nuclear-power-reactors/small-modular-reactors/small-modular-reactor-smr-global-tracker.**

World Nuclear Association. "Sweden." Accessed September 14, 2026. **https://world-nuclear.org/information-library/country-profiles/countries-o-s/sweden.**

Yahoo Finance. "NuScale Power Bets on Small Modular Reactors." Accessed September 14, 2026. **https://finance.yahoo.com/news/nuscale-power-bets-small-modular-212453222.html.**

World Nuclear News. "Polish Developer Applies for CfD for Three SMR Plants." June 30, 2026**. https://www.world-nuclear-news.org/articles/polish-developer-applies-for-state-funding-for-three-smr-plants**

ORLEN. "SMR." Accessed September 14, 2026. **https://www.orlen.pl/en/sustainability/transition-projects/smr**

Orlen Synthos Green Energy. “Home.” Accessed September 14, 2026. **https://osge.com/en/**

American Nuclear Society. “Rolls-Royce, GBE-N Contract Kickstarts U.K.’s SMR Plans for Wylfa Site.” *Nuclear Newswire*, April 15, 2026**.** **https://www.ans.org/news/2026-04-15/article-7937/rollsroyce-gben-contract-kickstarts-uks-smr-plans-for-wylfa-site/**

Rolls-Royce SMR. “Rolls-Royce SMR Secures Czech Contract to Deliver Small Modular Reactor Programme.” April 24, 2026. **https://www.rolls-royce-smr.com/press/rolls-royce-smr-secures-czech-contract-to-deliver-small-modular-reactor-programme**