Civil Nuclear Energy Programs to Support the Energy Transition

Support to Create Small Modular Reactor Regional Training Hub in Ghana

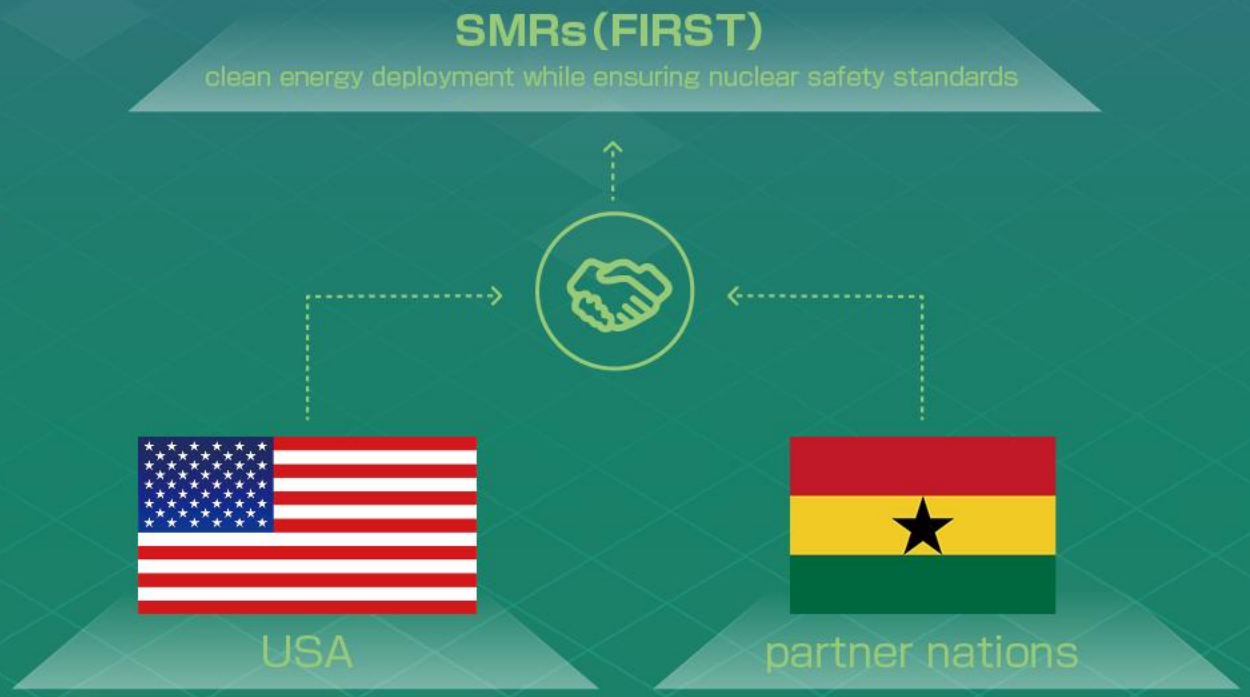
Funded by USA

SDGs

Provision, Installation, Testing, and Training in the Use of a NuScale Small Modular Reactor (SMR) Digital Control Room Simulator in Accra, Ghana

Establishment of Nuclear Welding Certification Program to support Ghana in secure and safe SMR Deployment

Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology (FIRST)



- Building on more than 60 years of U.S. innovation and expertise in nuclear energy, FIRST provides capacity-building support to partner countries as they develop their nuclear energy programs to support energy goals under the highest standards for nuclear safety, security, and nonproliferation. Launched in 2019, the FIRST program is one of the United States' key efforts to promote innovation in harnessing the power of public-private partnerships to expand universal energy access.
- FIRST is a capacity-building program designed to support energy innovation, and advance technical collaboration with partner nations on secure and safe nuclear energy infrastructure. Such cooperation includes supporting the deployment of advanced nuclear technologies, including small modular reactors (SMRs), in a manner consistent with the International Atomic Energy Agency's Milestones Approach for implementing a responsible nuclear power program. FIRST strengthens U.S. relationships with international partners, including through government, industry, national laboratory, and academic institution engagements.
- The FIRST program is a multi-agency U.S. government initiative led by the Department of State's Bureau of International Security and Nonproliferation (ISN).

The further deployment of Small Modular Reactors (SMRs) offers several significant advantages

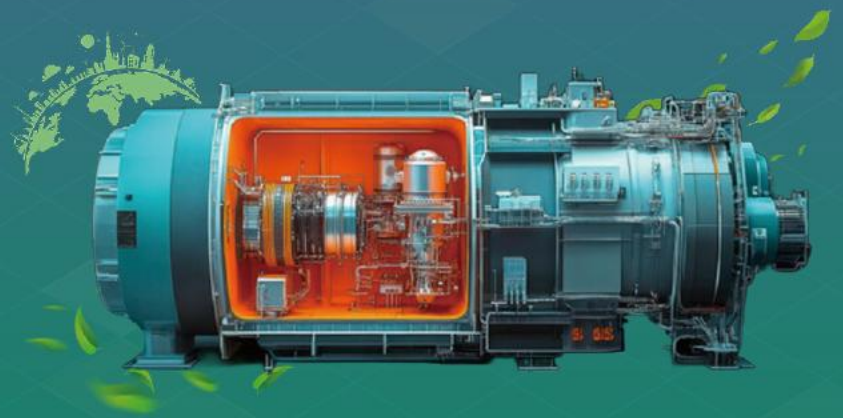
SMRs can be deployed in a variety of locations, including regions with limited grid capacity. This flexibility means that they can be used for distributed generation, supplying power to remote communities or industries that require localized energy.

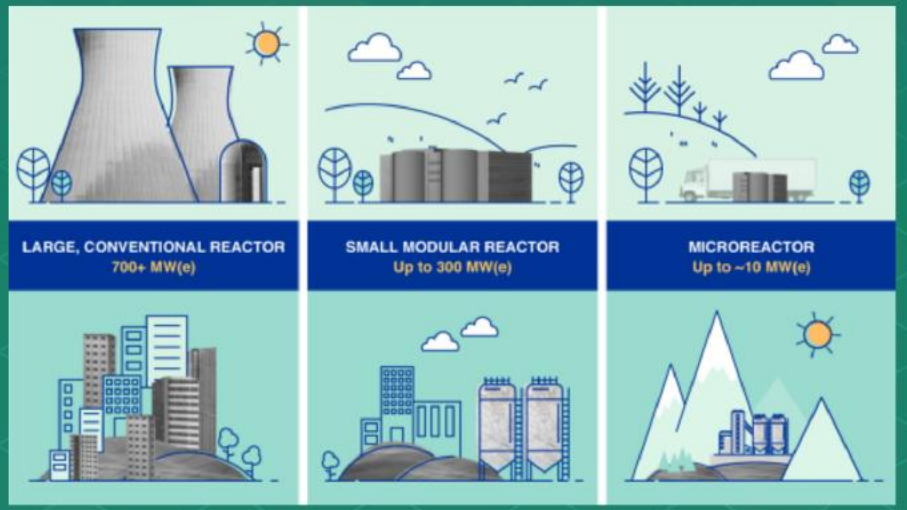
SMRs have a smaller physical footprint and lower resource consumption, which can minimize their environmental impact. Additionally, they produce less long-lived radioactive waste compared to larger reactors.

SMRs can complement renewable energy sources by providing reliable power generation when solar or wind resources are not available, thus enhancing grid stability and reliability.

The construction and operation of SMRs can create jobs and support local economies, often in regions that may benefit from economic revitalization.

The simplified design and manufacturing processes associated with SMRs can lead to shorter construction timelines, enabling quicker responses to energy demands.





In summary, SMRs present an innovative solution that addresses numerous energy challenges while promoting safety, sustainability, and economic growth.

NuScale Energy Exploration (E2) Center : the train hub for the next generation nuclear operators and engineers in Africa

The deployment of a NuScale E2 Center in Ghana — a first for the African continent — will be a key tool for preparing the workforce for SMR deployment in Ghana and beyond.

The E2 Center, a simulator of NuScale Power's SMR control room will provide a hands-on training facility to develop and train the next generation nuclear operators and engineers. It will also establish Ghana as a regional educational and training hub for the next stage of safe and secure civil nuclear deployments in Africa, consistent with International Atomic Energy Agency (IAEA)'s Milestones Approach and nonproliferation standards.

NuScale Energy Exploration (E2) Center was launched in January, 2025, in Accra, Ghana.





08:08:56
EAL Condition Detected
551MW
0:15 / 0:55
FIRST

Regional Welding Certification Program : creating qualified construction jobs in the nuclear sector

The Scoping visit to technical facilities of Ghana by delegation of US Department of State, American Welding Society and ISTC (November 2024)

- This memorandum was signed between GAEC and the ISTC. The certification program will provide essential training and a unique skillset to enable Ghanaian technicians to qualify for construction jobs in the nuclear energy sector. This certification program will help to establish Ghana as part of a safe and secure SMR supply chain in the region.

- The FIRST Program has been actively supporting Ghana in achieving the Sustainable Development Goals, particularly 7 (Affordable and Clean Energy) and 8 (Decent Work and Economic Growth).