



Beyond the Summit: Building the Institutions for Africa's Nuclear Future

An Assessment of the Outcomes and Policy Implications of the 2026 U.S.-Africa Nuclear Energy Summit

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Executive Summary

The third U.S.-Africa Nuclear Energy Summit, held in Accra from 19 to 21 August 2026, marked an important moment in the evolution of Africa's nuclear energy conversation. While the summit did not culminate in a new reactor construction contract, financial close or an immediate technology-selection decision for Ghana, its significance lies in a deeper shift: the discussion increasingly moved beyond whether African countries should pursue nuclear power and towards whether they possess the human, institutional, regulatory, financial and industrial capacity required to build and sustain nuclear programmes over the long term.

The Nuclear Energy Centre of Excellence (NECE) assesses this shift as a positive development. Africa's nuclear ambitions have grown considerably over the past decade, but ambition alone does not produce nuclear electricity. The transition from policy intention to actual deployment requires sustained institutional development, regulatory capability, long-term financing, workforce preparation, industrial readiness, public confidence and national ownership of decision-making.

The central lesson from USANES 2026 is therefore that Africa's nuclear future will ultimately be determined not by the number of reactors discussed at international conferences, but by the strength of the institutions built to govern, regulate, finance, construct, operate and sustain them.

For Ghana, this distinction is particularly important. The country has reaffirmed its commitment to nuclear power, remains in Phase Two of the International Atomic Energy Agency's Milestones Approach and continues to work towards approximately 1,000 MW of nuclear generation in the mid-2030s. At the same time, the programme still has significant work ahead in areas such as site characterisation, environmental assessment, regulatory development, grid readiness, financing, workforce preparation and eventual technology and procurement decisions.

USANES 2026 should therefore be understood not as an end point, but as a call to accelerate the transition from nuclear ambition to implementation readiness.

I. Africa's Nuclear Challenge Is No Longer Primarily About Ambition

Africa does not lack interest in nuclear energy. Across the continent, governments are increasingly examining nuclear power as part of their long-term electricity, industrialisation, climate and energy-security strategies. Egypt is already constructing four large nuclear units at El Dabaa. Ghana, Kenya

and Nigeria continue to advance their nuclear infrastructure programmes. Other countries are exploring the potential role of small modular reactors and advanced nuclear technologies.

The motivations are understandable. African electricity demand is rising. Industrialisation requires greater volumes of reliable power. Many

countries remain exposed to fuel-price volatility and supply disruptions. Energy-intensive sectors require dependable electricity if African economies are to move beyond primary commodity exports towards manufacturing and value addition.

Nuclear energy is therefore increasingly being considered alongside renewable energy, natural gas, hydropower and regional electricity trade as part of the continent's future energy mix. However, the experience of nuclear newcomer countries globally demonstrates that political interest is only the beginning.

A nuclear power programme requires institutional continuity over several decades. Governments must be capable of making informed technology and financing decisions. Regulators must be competent and independent. Owner-operators must understand complex international contracts. Skilled personnel must be developed and retained. Infrastructure must be prepared. Nuclear security, safeguards, emergency preparedness and radioactive waste arrangements must be established.

The real challenge is therefore not whether African countries can decide to pursue nuclear energy. The challenge is whether they can build the national capability required to implement that decision responsibly. This is one of the most important conclusions NECE draws from USANES 2026.

2. Workforce Development Must Move Beyond a Narrow Nuclear Definition

The summit theme, "Building and Sustaining Africa's Nuclear Workforce," appropriately placed human capacity at the centre of the nuclear development conversation. However, the nuclear workforce must be understood broadly.

Nuclear power programmes certainly require nuclear engineers, physicists, reactor operators and radiation-protection professionals. Yet these highly specialised professionals represent only one part of the human-resource system required to support a commercial nuclear programme.

A nuclear project also requires civil and structural engineers, electricians, welders, mechanical technicians, instrumentation and control specialists, cybersecurity professionals, quality-assurance experts, procurement specialists,

project managers, lawyers, economists, financial analysts, emergency planners, environmental scientists, communicators and regulatory professionals.

This broader understanding has important implications for workforce policy. Nuclear human-resource development cannot be confined to universities or postgraduate nuclear science programmes. Technical and vocational institutions must also be integrated into national planning.

The construction phase of a nuclear project will require large numbers of technically skilled workers, many of whom may not require advanced nuclear science degrees but will require specialised training and certification to operate within nuclear quality-assurance systems.

Similarly, government agencies outside the traditional nuclear sector will require greater understanding of nuclear issues. Ministries responsible for finance, environment, energy, labour, education, trade and industry will increasingly need relevant technical and policy capacity. NECE therefore assesses workforce planning as a national development challenge rather than an issue for the nuclear sector alone.

3. Workforce Planning Must Be Aligned With the Project Timeline

Developing nuclear professionals is only part of the challenge. Countries must also ensure that the right competencies are available at the right time. Training personnel too early can create retention problems if meaningful employment opportunities do not exist. Training them too late can create dependence on foreign expertise during critical project stages.

A sustainable workforce strategy must therefore be linked directly to the nuclear project schedule. During early infrastructure development, priority may need to be given to regulatory professionals, project planners, site specialists, economists, legal experts and policy professionals.

As the programme moves towards procurement and construction, demand will expand for project managers, engineers, qualified construction professionals, technicians, inspectors and quality-assurance personnel. During commissioning and operation, reactor operators, maintenance

specialists, radiation-protection professionals, chemists, security personnel and emergency-response staff become increasingly important.

This sequencing is particularly relevant for Ghana. If the country intends to introduce nuclear power in the mid-2030s, the workforce required during the 2026 to 2030 period will differ considerably from the workforce required during construction and eventual operation.

A national manpower strategy should therefore identify not simply how many people Ghana needs, but what skills are required, when they are required, where they will be trained and how they will be retained.

4. The Regulator Must Be Ready Before the Reactor

One of the most important policy conclusions arising from the summit is that regulatory readiness must precede reactor deployment. A nuclear regulator must be capable of evaluating potential sites, reviewing safety documentation, assessing reactor designs, inspecting construction, evaluating security arrangements and making independent decisions on commissioning and operation.

These responsibilities begin years before a plant produces electricity. Regulatory capability therefore cannot be built after a construction contract has been signed.

International cooperation can provide valuable support. Experienced regulators can share expertise. Technical support organisations can assist with specialised reviews. The IAEA can provide peer review, training and technical guidance. However, regulatory responsibility ultimately remains national. No vendor and no international partner can permanently exercise Ghana's sovereign regulatory responsibility.

For Ghana, this means regulatory development must proceed on two fronts. The country must complete and strengthen the legal and subsidiary regulatory framework required for commercial nuclear power. At the same time, the Nuclear Regulatory Authority must continue building the technical, institutional and human capacity required to implement those rules independently.

NECE considers this dual requirement fundamental to construction readiness.

A strong regulator is not an obstacle to nuclear deployment. It is one of the conditions that makes credible deployment possible.

5. Ghana's Nuclear Commitment Is Clear, but Implementation Discipline Is Now Required

USANES 2026 also reinforced Ghana's political commitment to nuclear power. The country remains in Phase Two of the IAEA Milestones Approach and continues to target approximately 1,000 MW of nuclear generation in the mid-2030s.

NECE considers the emerging mid-2030s timeline more credible than some earlier ambitions that placed initial nuclear generation around 2029 or 2030. Nuclear projects require long preparation periods.

Detailed site characterisation, environmental assessment, regulatory review, financing, procurement, construction and commissioning cannot be compressed indefinitely without creating project risk.

The policy priority should therefore not be achieving the earliest possible date. It should be achieving a technically credible date based on realistic implementation milestones.

Ghana has already established several important foundations. It has decades of nuclear experience through the Ghana Atomic Energy Commission. It has a designated regulator. It has Nuclear Power Ghana as the programme organisation progressing towards the future owner-operator role. It maintains significant cooperation with the IAEA and international nuclear partners. It has also sustained political commitment across successive governments.

These are major advantages. The challenge is now to integrate them into a disciplined implementation programme.

6. International Agreements Must Be Assessed According to What They Actually Enable

The progressing Ghana-U.S. Section 123 Agreement for peaceful nuclear cooperation was another important issue associated with the summit. NECE regards the agreement as strategically significant because it can establish the

legal basis for deeper peaceful nuclear cooperation between Ghana and the United States.

However, such agreements must be classified accurately. A Section 123 Agreement is not a reactor purchase agreement. It is not a financing agreement. It does not constitute financial close. It is not a construction licence. It does not mean Ghana has selected a U.S. reactor.

Its importance lies in enabling certain forms of cooperation that may later support technology, fuel, training and commercial relationships. Accurate milestone classification matters because nuclear programmes develop through a series of legal, technical, regulatory, commercial and financial steps.

Public understanding is weakened when each new agreement is presented as if reactor construction is imminent. NECE therefore recommends greater discipline in public reporting and policy communication regarding nuclear milestones. The same principle should apply regardless of whether Ghana is engaging the United States, Russia, China, South Korea, France, Canada or any other prospective nuclear partner.

7. Nuclear Partnerships Are Also Instruments of Long-Term Institutional Influence

USANES 2026 also highlighted a changing geopolitical dimension of international nuclear cooperation. Nuclear relationships increasingly extend beyond reactor sales.

Countries and institutions that train nuclear engineers, assist regulators, establish university partnerships, provide simulation infrastructure and support national institutions may influence the long-term evolution of emerging nuclear programmes. This is not inherently problematic. International cooperation is essential for newcomer countries.

However, African governments must understand that capacity-building relationships can also shape future technology preferences, institutional practices and commercial partnerships. The United States has increasingly emphasised programmes centred on institutional development, workforce training, regulatory cooperation and small modular reactor readiness.

Ghana's participation in such programmes has

helped expand training, simulation and institutional capacity. This approach illustrates a wider shift in international nuclear competition. Future nuclear partnerships may increasingly be determined not simply by which country can offer a reactor, but by which partner establishes the strongest institutional relationships long before procurement begins.

For African countries, the appropriate policy response is not to avoid partnerships. It is to manage them strategically. Partnership should expand national capability. It should not create permanent dependence.

8. Africa Must Avoid Replacing Technology Dependence With Knowledge Dependence

One of the most important strategic risks for nuclear newcomer countries is the possibility of replacing dependence on imported technology with dependence on imported knowledge.

Africa does not need to manufacture every nuclear component domestically. That would not be realistic for early projects. Specialised reactor components, fuel services, engineering systems and certain safety-related technologies will continue to be sourced internationally.

However, a country must possess sufficient knowledge to understand what it is buying. It must be able to evaluate technology. It must understand financing obligations. Its regulator must understand the safety case. The owner-operator must be able to manage the vendor. National institutions must understand fuel arrangements, waste obligations, security requirements and operational risks.

This is the distinction between importing technology and importing decision-making. Capacity-building programmes should therefore be assessed according to whether they produce sustainable national capability.

Training should create future trainers. Regulatory cooperation should strengthen the domestic regulator. Engineering support should improve the owner-operator's technical capacity. Academic partnerships should develop local research competence. Vendor cooperation should help the country become an intelligent customer.

If these outcomes are not achieved, external assistance can become a long-term dependency

rather than a pathway to national capability.

9. Ghana Has an Opportunity to Become a Regional Nuclear Knowledge Hub

One of the more significant opportunities emerging from the summit is Ghana's potential role as a regional centre for nuclear training and policy development.

Ghana already possesses one of the more established nuclear institutional ecosystems among African newcomer countries. GAEC, the Nuclear Regulatory Authority, Nuclear Power Ghana, universities and research institutions collectively provide a foundation that can support capabilities beyond Ghana's domestic nuclear programme.

The development of the Regional Energy Training Centre reinforces this opportunity. Regional cooperation could allow African countries to share training facilities, simulation infrastructure, specialist laboratories and regulatory expertise rather than each country attempting to replicate every capability nationally.

This could improve efficiency and accelerate skills development across the continent. For Ghana, the opportunity extends beyond technical training. The country could also strengthen its position in nuclear policy, economics, regulation, financing, stakeholder engagement and governance.

NECE considers this an area of significant strategic value. Ghana's long-term nuclear contribution to Africa need not begin only when its first commercial reactor produces electricity. The country can begin contributing through knowledge, training, policy development and regional institutional cooperation now.

10. Workforce Development Must Be Linked to Industrialisation

USANES 2026 also strengthened the connection between nuclear power and industrial policy. This is important for Ghana.

A future nuclear project should not be considered only in terms of electricity production. It should also be examined according to whether it can strengthen Ghanaian industry, develop domestic technical skills and create opportunities for local firms.

A nuclear construction programme will require civil

works, electrical systems, engineering services, transport, logistics, fabrication, quality assurance, cybersecurity, environmental services and professional support. Some of these capabilities already exist in Ghana. Others will require upgrading. Some specialised components will continue to be imported.

The appropriate policy objective is therefore not arbitrary localisation. It is strategic localisation based on capability and nuclear quality requirements. Ghana should begin assessing its industrial capacity before final procurement decisions are concluded.

Domestic firms need time to understand nuclear standards, improve quality systems and develop relevant certifications. Local-content planning should therefore be integrated into technology selection and workforce development rather than introduced after major contracts have been awarded.

11. Emerging Technologies Will Change the Nuclear Workforce

The summit's attention to artificial intelligence, digitalisation and cybersecurity also has long-term implications for African nuclear programmes.

The workforce required for nuclear plants operating in the 2040s and 2050s will differ from the workforce that operated plants designed several decades ago. Digital instrumentation, advanced modelling, data analytics, automation and AI may increasingly influence design, maintenance, monitoring and aspects of regulatory review.

At the same time, greater digitalisation creates new cybersecurity, software assurance and human-machine interaction risks. African nuclear education programmes must therefore prepare for this technological environment.

Future engineers will increasingly need digital competence. Cybersecurity specialists will need knowledge of nuclear safety and security. Regulators will require expertise in software-intensive systems.

Operators will need to understand increasingly complex digital instrumentation. This reinforces the need for workforce development to be forward-looking rather than based solely on historical

nuclear industry models.

12. Conferences Must Translate Into Measurable Implementation

NECE considers USANES 2026 a useful contribution to Africa's nuclear development discourse. However, the long-term value of such summits depends on what happens afterwards.

There is a risk that nuclear newcomer programmes can accumulate conferences, agreements, workshops and training programmes without adequately addressing the less visible technical activities that determine whether construction readiness is actually achieved.

For Ghana, several important requirements remain.

- Detailed site characterisation must progress.
- Environmental assessment must be completed.
- The regulatory framework must continue to mature. Grid studies must inform technology and system decisions.
- The owner-operator must continue developing project-management capability.
- Workforce and industrial-readiness programmes must become increasingly aligned with the project timeline.
- Financing arrangements must eventually become clearer.

These are the areas in which progress should increasingly be measured.

Training programmes should be linked to identified workforce needs.

- International cooperation should address documented infrastructure gaps.
- Regulatory partnerships should produce measurable domestic capability.
- Industrial engagement should prepare Ghanaian firms for actual procurement requirements.
- Stakeholder engagement should generate genuine public understanding rather than simply promote the technology.

The value of international nuclear cooperation should ultimately be assessed against these outcomes.

13. Ghana Must Finance Construction Readiness Before It Can Finance Construction

One of the most important implementation issues is financing. Discussions about nuclear finance often focus on the billions of dollars required to construct

a reactor. That discussion is essential, but it comes later.

Ghana first needs to finance the activities required to reach construction readiness. Detailed site investigations require resources. Environmental studies need sustained funding. Regulatory institutions require qualified personnel. Grid assessments must be completed. The owner-operator must develop specialist capability. Workforce programmes need financing. Legal and institutional preparations require technical support.

These expenditures are significantly smaller than the eventual cost of reactor construction, but failure to fund them at the appropriate time can delay the entire programme.

NECE therefore considers Phase Two financing a critical near-term priority. Ghana should establish a predictable mechanism for funding nuclear infrastructure development rather than depending on intermittent financing for individual preparatory activities.

A country cannot credibly negotiate the financing of a multi-billion-dollar reactor while essential preparatory studies remain inadequately funded.

14. Nuclear Power Must Be Integrated Into Ghana's Wider Development Strategy

Nuclear power should not be pursued as an isolated technological project. Its justification must remain connected to Ghana's wider national development objectives.

The programme should be assessed against future electricity demand, industrialisation, energy security, grid requirements, climate objectives, natural gas availability, renewable-energy expansion and regional power trade.

A future reactor should solve identifiable national problems. Its contribution should be evaluated not only according to how many megawatts it adds to the grid but according to whether it strengthens reliability, supports industrial productivity, improves energy security, contributes to decarbonisation and produces acceptable long-term economic outcomes.

This broader approach is particularly important as Ghana considers energy-intensive industrial

development, including mineral processing and value addition. Nuclear energy may have an important role. But that role must be demonstrated within a coherent national energy and industrial strategy.

15. African Ownership Must Remain the Strategic End Goal

The most important long-term conclusion NECE draws from USANES 2026 concerns national ownership. Africa's nuclear future must ultimately be African-owned.

This does not mean rejecting foreign technologies, international financing or external expertise. Nuclear power is inherently international. Reactor technologies, fuel services, specialised engineering and financing will continue to involve global partnerships.

African ownership means something more fundamental. It means governments possessing sufficient competence to make informed decisions. It means regulators capable of independent judgment. It means owner-operators capable of managing vendors and complex contracts. It means engineers and technicians who understand the systems they operate. It means policymakers who understand the financial commitments being made. It means institutions capable of managing safety, security, safeguards, emergency preparedness and radioactive waste. It means domestic industries being prepared to participate where they can meet nuclear standards. And it means citizens having confidence that the institutions responsible for nuclear energy can protect the national interest.

A country may import a reactor. It should not import its entire understanding of that reactor. This principle should remain central to Africa's nuclear development strategy.

16. Capacity Retention Is as Important as Capacity Building

African nuclear programmes have benefited from decades of international training. Many professionals have participated in IAEA programmes, bilateral cooperation, postgraduate studies and specialist technical training.

The challenge is increasingly one of retention. If professionals are trained long before meaningful national opportunities exist, they may leave the sector. If regulators cannot retain specialised personnel, institutional knowledge may be lost. If

nuclear institutions lack career pathways and sustained research opportunities, capability can gradually erode.

Workforce planning must therefore include retention, succession planning and institutional memory. The question should not simply be how many professionals have received training. The more important question is whether the required competence remains available to the programme when it is needed.

A nuclear power plant may operate for 60 years or more. The institutions being developed today must therefore be capable of continuously recruiting, training and replacing professionals across several generations. This is what sustaining a nuclear workforce ultimately requires.

17. NECE Assessment: What Should Happen After USANES 2026?

NECE assesses that the real test of USANES 2026 will be whether the issues discussed in Accra are converted into measurable national action.

For Ghana, the immediate post-summit agenda should focus on strengthening implementation rather than generating additional declarations of intent. Priority should be given to completing the technical work required under Phase Two, establishing predictable financing for nuclear infrastructure development, strengthening regulatory readiness and aligning workforce development with the project schedule.

Ghana should also accelerate assessment of local industrial capabilities, establish clearer links between nuclear planning and industrial policy, and develop measurable indicators for evaluating progress across the IAEA infrastructure issues.

International partnerships should increasingly be evaluated according to the domestic capability they create. Training programmes should have defined national outcomes. Regulatory cooperation should strengthen institutional independence. Technology discussions should be assessed against Ghana's grid, financing, localisation and long-term energy-security requirements.

The country should also continue strengthening public engagement based on transparency and informed dialogue. Nuclear readiness must increasingly become measurable.

Conclusion: From Nuclear Ambition to Nuclear Capability

USANES 2026 was significant because it placed workforce, institutional capability and long-term sustainability at the centre of Africa's nuclear conversation. That shift should be welcomed.

Africa does not need nuclear ambition alone. It needs nuclear capability. It needs regulatory competence and independence. It needs institutional continuity. It needs financing discipline. It needs industrial readiness. It needs sustainable human-resource systems. It needs public confidence. And it needs the knowledge necessary to exercise meaningful national ownership over technologies and agreements that will shape energy systems for generations.

For Ghana, the next phase of the nuclear programme should therefore be judged increasingly

by implementation. Progress should be measured by the completion of infrastructure milestones, the strength of institutions, the availability of financing, the readiness of the regulator, the quality of the workforce and the ability of Ghanaian organisations to make independent decisions.

The next stage of Africa's nuclear journey will not be determined simply by which international partner can offer a reactor. It will be determined by whether African countries can become knowledgeable, demanding and sovereign nuclear customers and, eventually, capable nuclear operators in their own right.

This is the central policy challenge that remains after USANES 2026. It is also the standard against which the longer-term impact of the Accra summit should ultimately be assessed.

Key Policy Takeaways



About the IEA, Nuclear Energy Centre of Excellence

The Nuclear Energy Centre of Excellence (NECE) is an initiative of the Institute of Economic Affairs (IEA), Ghana, focused on advancing independent research, policy analysis and informed dialogue on nuclear energy and its role in Ghana's long-term energy security, industrial development and economic transformation.

NECE examines issues including nuclear policy, governance, regulation, financing, human-resource development, institutional readiness, stakeholder engagement and the socioeconomic implications of nuclear power. Through evidence-based research and engagement with national and international stakeholders, the Centre seeks to support informed decision-making on the safe, secure, sustainable and economically responsible development of nuclear energy in Ghana and Africa.