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MINISTRY OF ENERGY AND PETROLEUM

STATE DEPARTMENT FOR ENERGY

NATIONAL NUCLEAR ENERGY POLICY

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ACRONYMS

CSA	Comprehensive Safeguards Agreement
CPF	Country Programme Framework
CPPNM	Convention on Physical Protection of Nuclear Material
CR WPF	Central Radioactive Waste Processing Facility
EIA	Environmental Impact Assessment
EPRA	Energy and Petroleum Regulatory Authority
HRD	Human Resource Development
IAEA	International Atomic Energy Agency
INST –UON	Institute for Nuclear Science & Technology, University of Nairobi
KEBS	Kenya Bureau of Standards
KNH	Kenyatta National Hospital
KNRA	Kenya Nuclear Regulatory Authority
KNRR	Kenya Nuclear Research Reactor
LCPDP	Least Cost Power Development Plan
MTRH	Moi Teaching and Referral Hospital
NCCP	National Cancer Control and Prevention Plan
NDT	Non-Destructive Testing
NDMU	National Disaster Management Unit
NEMA	National Environment Management Authority
NEPIO	Nuclear Energy Programme Implementation Organization
NESC	The National Economic and Social Council
NHSSP	National Health Sector Strategic Plan
NPP	Nuclear Power Plant
NPT	Treaty on Non-Proliferation of Nuclear Weapons
N*u*PEA	Nuclear Power and Energy Agency
SDGs	Social Development Goals
SESA	Strategic Environmental and Social Assessment
SSAC	State System of Accounting and for Control of Nuclear Material

DEFINITIONS OF TERMS	
Acronym / Abbreviation	**Meaning**
BETA	Bottom-Up Economic Transformation Agenda
CBRN	Chemical, Biological, Radiological and Nuclear
CNS	Convention on Nuclear Safety
CPF	Country Programme Framework
CPPNM	Convention on the Physical Protection of Nuclear Material
CRWPF	Central Radioactive Waste Processing Facility
CSA	Comprehensive Safeguards Agreement
CSFSF	Centralised Spent Fuel Storage Facility
EAC	East African Community
EIA	Environmental Impact Assessment
EMCA	Environmental Management and Co-ordination Act
EPR	Emergency Preparedness and Response
EPRA	Energy and Petroleum Regulatory Authority
ESIA	Environmental and Social Impact Assessment
GEDSI	Gender Equality, Diversity and Social Inclusion
GoK	Government of Kenya
HRD	Human Resource Development
IAEA	International Atomic Energy Agency
ICT	Information and Communication Technology
INEP	Integrated National Energy Plan
INST-UON	Institute for Nuclear Science and Technology, University of Nairobi
KEBS	Kenya Bureau of Standards
KenGen	Kenya Electricity Generating Company
KETRACO	Kenya Electricity Transmission Company
KNH	Kenyatta National Hospital
KNRA	Kenya Nuclear Regulatory Authority
KNRR	Kenya Nuclear Research Reactor
LCPDP	Least Cost Power Development Plan
M&E	Monitoring and Evaluation
MoE&P	Ministry of Energy and Petroleum
MTRH	Moi Teaching and Referral Hospital
NACOSTI	National Commission for Science, Technology and Innovation
NCCP	National Cancer Control and Prevention Plan
NDMU	National Disaster Management Unit
NDT	Non-Destructive Testing
NEMA	National Environment Management Authority
NEPIO	Nuclear Energy Programme Implementing Organization
NESC	National Economic and Social Council
NHSSP	National Health Sector Strategic Plan
NNEP	National Nuclear Energy Policy
NPP	Nuclear Power Plant
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NRF	National Research Fund
NuPEA	Nuclear Power and Energy Agency
OSH	Occupational Safety and Health
PFM	Public Finance Management
PPADA	Public Procurement and Asset Disposal Act
PPP	Public-Private Partnership
R&D	Research and Development
RSTI	Research, Science, Technology and Innovation
RWM	Radioactive Waste Management
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SESA	Strategic Environmental and Social Assessment
SSAC	State System of Accounting for and Control of Nuclear Material
TC	Technical Cooperation
UON	University of Nairobi
Nuclear safeguards	Measures implemented by the IAEA to verify that a State adheres to its international obligations to peaceful uses of Nuclear safe.

FOREWORD BY THE CABINET SECRETARY

The Government of Kenya is committed to the safe, secure and peaceful use of nuclear energy, science and technology across all sectors. The utilization of Nuclear Energy technologies addresses varied global issues, including reliable electricity generation, human healthcare and nutrition, agriculture, water-resource management and industrial applications for sustainable economic development. This also comes with nuclear proliferation concerns that pose a grave threat to international safety and security, hence the lifelong responsibility of ensuring safe and secure uses of nuclear energy and technology.

Kenya has been a Member State of the International Atomic Energy Agency (IAEA) since 1965. The IAEA Technical Cooperation Programme with Kenya has identified the areas of capacity development, and strengthening national radiation safety and nuclear security as priorities for implementation. Kenya has made progress in capacity development of the expertise needed to develop a national infrastructure for nuclear use, including energy assessment, nuclear power planning, engineering, safety, security, law and regulation, among other initiatives to help with human resource development for a safe and reliable nuclear programme.

In a bid to ensure the continued and full exploitation of nuclear energy technology to aid socioeconomic development, Kenya established the Nuclear Power and Energy Agency (NuPEA) to promote and implement the nuclear power programme and enacted the Nuclear Regulatory Act to provide a framework seeking to ensure the safe and secure uses of nuclear science and technology in Kenya. In addition, The Government has intensified efforts at ratification of all remaining relevant international nuclear law treaties and conventions amongst other actions relevant to this purpose.
Through this Policy, the Government seeks to establish an integrated approach to planning and sustainable management of peaceful uses of nuclear energy in the country; ensure robust institutional, legal and governance measures to support the achievement of the desired objectives of safe and secure uses of nuclear applications and participation of the public and stakeholders in addressing all issues and challenges identified associated with nuclear applications.

This Policy proposes a broad range of measures and actions aimed at establishing a national position on nuclear energy. It provides the foundation for subsequent legislation, institutional strengthening, infrastructure development and entrenchment of constitutional principles and applicable international obligations and commitments in the safe and peaceful use of nuclear energy.

HON. JAMES OPIYO WANDAYI, EGH
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PREFACE AND ACKNOWLEDGEMENTS

The development of the National Nuclear Energy Policy 2026 marks a significant milestone in Kenya's journey towards leveraging nuclear energy and technologies for sustainable, inclusive and resilient national development. Recognising the multifaceted applications of nuclear technologies beyond energy, this Policy underscores their crucial role in advancing socio-economic development while emphasising safety, security and responsible governance.

While energy remains pivotal, this policy acknowledges that nuclear technologies offer diverse solutions, from enhancing healthcare and agriculture to addressing environmental challenges and industrial development. Kenya has made notable strides in expanding electricity access, yet challenges persist in ensuring its reliability, affordability and support of clean energy use. This policy seeks to bridge some of these gaps, promoting a comprehensive transition that integrates renewable resources, energy efficiency, and cutting-edge technologies.

Aligned with Kenya's commitment to the Sustainable Development Goals (SDGs)—particularly Goal 7: Affordable and Clean Energy; Goal 3: Good Health and Well-being; Goal 2: Zero Hunger; Goal 8: Decent Work and Economic Growth; and Goal 9: Industry, Innovation and Infrastructure—and in accordance with global climate obligations such as the Paris Agreement, this policy promotes an equitable transition that benefits all, including vulnerable and underserved communities. By prioritising innovation, safety, and sustainability in the peaceful use of nuclear technologies, this framework seeks to catalyze inclusive economic growth, strengthen public health systems, enhance food and agricultural productivity, and support the development of resilient industrial infrastructure.

The State Department for Energy expresses gratitude to the dedicated team involved in shaping this policy as well as the collaborative efforts of stakeholders, including the Nuclear Power and Energy Agency. Anticipating transformative progress in the decade ahead, the Nuclear Energy Policy 2026 is intended to guide Kenya's nuclear energy programme over the coming decade and support sustainable national development. The State Department remains committed to fostering innovation, managing risks, and maximizing opportunities in collaboration with all stakeholders.

ALEX WACHIRA
PRINCIPAL SECRETARY, STATE DEPARTMENT FOR ENERGY

EXECUTIVE SUMMARY

Kenya's National Nuclear Energy Policy establishes a framework for the safe, secure and peaceful use of nuclear energy and nuclear technologies, guided by international frameworks, and is committed to leveraging nuclear technology for socio-economic development. It is informed by applicable international frameworks and Kenya's obligations under relevant instruments, including the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Convention on the Physical Protection of Nuclear Material (CPPNM) and applicable safeguards agreements. All nuclear activities, including the proposed nuclear power plant (NPP) and nuclear research reactor, must comply with applicable safety, security, safeguards and regulatory requirements. The Policy supports diverse applications of nuclear energy in electricity generation, research, education and training, food and agriculture, human health, water-resource management, oil extraction, industrial processes such as water desalination and hydrogen production among others fostering sustainable development while upholding international non-proliferation commitments.

Reliable and affordable energy is essential to Kenya's socio-economic development as articulated in and in Kenya's Vision 2030, nuclear-generated electricity was noted for its reliability and lower production costs. In April 2010, the National Economic and Social Council (NESC) recommended the adoption of the nuclear power program as a national priority and as a solution to the escalating demand for electricity and energy to drive the country's development agenda. Subsequently, the Government made a policy decision to include nuclear power in Kenya's national energy mix in order to enhance affordability, diversity, and resilience. This commitment is evident in the Least Cost Power Development Plan (LCPDP), the National Energy Policy and the Energy Act, which have recognised the need for inclusion of nuclear energy in Kenya's energy mix in order to enhance affordability, diversity, and resilience. Nuclear-generated electricity is reliable, and the cost of production is comparatively lower

Nuclear energy and technology have a wide range of peaceful applications beyond electricity generation critical to sustainable development e.g. healthcare, agriculture and food security, industry, water-resource management, education and research, and environmental protection. These applications can contribute to sustainable development when supported by an appropriate policy, legal and regulatory framework.

This Policy makes specific provisions that will undergird Kenya's nuclear programme and facilitate its attainment. It analyses the existing legal and policy framework, outlines the l applications of nuclear energy and technology and the potential it holds for Kenya, and addresses specific elements necessary for establishing a national nuclear programme such as safety, security and safeguards, radiation protection, the nuclear fuel cycle (NFC), radioactive waste management, stakeholder engagement, environmental protection etc. It also addresses policy implementation, monitoring and evaluation.

CHAPTER 1: INTRODUCTION

1.1 BACKGROUND

Kenya's long-term development aspirations articulated in Kenya Vision 2030, places access to reliable, competitive and sustainable energy at the centre of economic transformation. This resonates with the country's commitments under regional and international obligations such as the United Nations Agenda 2030 on Sustainable Development, the African Union's Agenda 2063, EAC Vision 2050 and the Paris Agreement.

Kenya's electricity demand has been steadily increasing due to population growth, urbanisation, expansion of manufacturing, digital economy activities and the need for universal access. While the country has made significant progress in expanding renewable energy sources such as geothermal, hydro, wind, and solar, the energy mix still faces challenges of inadequate firm capacity. These constraints affect system reliability, supply-demand variability and limit the pace of economic transformation.

In April 2010, the National Economic and Social Council (NESC) recommended the inclusion of nuclear power in Kenya's energy mix as a strategic response to the growing demand for electricity. This recommendation was reflected in the Energy Act, Cap. 314, the National Energy Policy 2025 (Sessional Paper No.5 of 2026) and subsequent Least Cost Power Development Plans (LCPDPs). To this end, there has been notable progress towards establishing the necessary infrastructure for the nuclear power programme. This includes establishing NuPEA as the Nuclear Energy Programme Implementing Organization (NEPIO), through the Energy Act Cap. 314 in 2019; establishing a nuclear regulatory body Kenya Nuclear Regulatory Authority (KNRA) through the Nuclear Regulatory Act CAP 243 in 2020, and designating KenGen as the Owner/Operator of the first nuclear power plant in 2025. The 15-year Strategic Plan for a Nuclear Power Programme (2013) recommended the establishment of a nuclear research reactor which would be used to undertake Research and Development activities to support the development of human capacity for the nuclear power programme. In 2026, NuPEA was designated as the owner/operator of the first Nuclear Research Reactor.

Kenya has been a member of the International Atomic Energy Agency since 1965 and has adopted the internationally recommended IAEA Milestone Approach in development of its nuclear power programme. The Milestone Approach is a phased, guided and systematic methodology which assesses all nuclear infrastructure issues at every single stage of development. The country has also signed and ratified several integral international legal instruments (treaties and conventions) in the areas of nuclear security and Non-proliferation Treaty (NPT) such as the Convention on the Physical Protection of Nuclear Material (CPPNM) and its amendment, the NPT and IAEA nuclear safeguards agreements. Despite these advances, there is inadequate policy framework to guide the development, coordination and implementation of nuclear energy and nuclear technology programmes. Introduction of nuclear power into the energy mix requires the development of the necessary framework and infrastructure. This relates to the safety aspects in development,

construction, operation, maintenance, decommissioning, and waste management of the nuclear power program and related amenities.

1.2 Policy issues

The use of nuclear energy is a long-term undertaking that requires comprehensive policy, legal, institutional, financial, technical, environmental and human-resource arrangements. This presents opportunities but faces constraints. The following are the policy issues identified:

1.2.1 Energy security and reliability

Kenya's energy sector has advanced significantly in the renewable sources yet persistent intermittency, variability and inadequate firm capacity continue to undermine grid reliability and constrain socio-economic transformation. Currently Kenya mainly imports fossil fuels and an amount of electricity from Ethiopia and Uganda which brings about energy insecurity. Nuclear energy offers weather-independent, low-carbon firm power sources that can complement variable renewables, stabilize the grid and support diversification and industrial growth. Nuclear energy also offers opportunities to enhance fuel supply security through diversified procurement arrangements, long-term fuel supply contracts and the development of appropriate fuel-cycle and technology options. Integrating nuclear energy into Kenya's electricity generation mix would therefore require a comprehensive policy framework to ensure secure fuel supply, reliable plant operation, system flexibility, and alignment with the country's long-term energy security and economic development objectives.

1.2.2 *Legal and Regulatory Framework*

To establish a successful nuclear programme requires a comprehensive, coherent and effective legal and regulatory framework that provides for the safe, secure and sustainable development of its nuclear power programme, in accordance with applicable international obligations and standards. Kenya has an existing legal framework in use to govern infrastructure development in the country. For the development of the nuclear power programme, this includes statutes such as the Nuclear Regulatory Act Cap 234, Energy Act, Environmental legislation among others. However, the legal and regulatory framework required such as nuclear power plant and research reactor-specific regulations, standards, guidelines and procedures covering siting, design, construction, commissioning, operation, nuclear fuel cycle (NFC) activities and decommissioning are yet to be comprehensively developed. There is therefore a need to strengthen and harmonise relevant laws, regulations and institutional arrangements to ensure effective oversight, compliance with international obligations and sustainable development of Kenya's nuclear energy programme.

1.2.3 *Compliance with treaties, conventions and Obligations*

The IAEA sets out requirements and guidance for countries developing nuclear power programmes and to ensure full alignment with nuclear obligations, accession to relevant conventions followed by effective implementation in national law is necessary. Kenya is party to various treaties and conventions on nuclear energy on the aspect of nuclear security and safeguards (CPPNM, its amendment, the NPT and Nuclear Safeguards Agreements), However, it is yet to ratify international conventions on nuclear safety and nuclear liability.

There is a need to pursue ratification of the outstanding conventions, undertake the necessary legislative and regulatory measures for their implementation, strengthen institutional capacity and compliance coordination, and enhance international cooperation on nuclear safety, security, safeguards, and emergency preparedness and response.

1.2.4 *Policy guideline for nuclear fuel cycle and radioactive waste management*

The IAEA provides that a comprehensive national policy and strategy for the nuclear fuel cycle (NFC), radioactive waste and spent nuclear fuel management, supported by clear institutional responsibilities, sustainable financing arrangements and long-term provisions for storage, disposal and decommissioning is a fundamental element for a nuclear power programme. The Nuclear Regulatory Act, Cap 234 provides a legal basis for radioactive waste management and management of spent fuel. However, Kenya lacks a comprehensive national policy and strategy for the NFC to guide the long-term management of radioactive waste and spent nuclear fuel. Further, the absence of a dedicated national organisation for the centralised management of radioactive waste, including storage, disposal and decommissioning, creates uncertainty regarding institutional responsibilities, financing arrangements and long-term liabilities as the country prepares for nuclear power development. The IAEA recognizes radioactive waste and spent fuel management as fundamental elements of a nuclear power programme and emphasizes the importance of a clear national policy and strategy.To ensure a national approach for the safe, secure and sustainable management of these materials throughout their lifecycle, it is essential to establish a comprehensive policy framework for the NFC, radioactive waste and spent nuclear fuel management..

1.2.5 *Human and Institutional capacity*

The IAEA guidelines HRM for New Nuclear Programmes (IAEA Energy series No. NG-T-3.10) provides that a comprehensive and sustainable national human resource development (HRD) and institutional capacity-building framework that ensures the availability of sufficient, competent and

appropriately qualified personnel, supported by capable institutions is essential to implement and regulate Kenya's nuclear power programme throughout its lifecycle.

Kenya has developed the human-resource and institutional development for its nuclear power programme through training and capacity building including through national and international cooperation. This has been through postgraduate education, specialised training, fellowships and scientific visits, complemented by university programmes in nuclear power and related fields. On the institutional development, Kenya has established the main institutions to implement the nuclear programme such as NuPEA, KNRA, KenGen and others. Despite these developments, a comprehensive assessment of the human resource and institutional capacity identifies a significant gap in the specific workforce and institutional capacity requirements for nuclear energy development. This calls for development and implementation of a national nuclear HRD Strategy, strengthen training institutions and practical training facilities, sustain national and international partnerships in capacity building and technology transfer to ensure an adequate, skilled and sustainable workforce throughout the nuclear programme lifecycle as well as establish the capacity of any other relevant institutions to implement the nuclear programme.

1.2.6 *Industrial involvement and localisation*

Local Industrial development in nuclear energy is necessary in building and strengthening a country's industrial capabilities so that local companies can safely, reliably and cost-effectively supply goods, services, equipment, materials and works needed throughout the nuclear power programme lifecycle. According to the IAEA Milestones Approach, this is required in the development of local and national industrial capabilities to enable domestic participation in the nuclear supply chain.

Kenya has established procurement laws, import and export laws, EPCs, NRA, policies on industrialisation and local content among others, however there is inadequate capacity and a strong policy framework to enhance local industrial capabilities.

There is a need to establish a framework for industrial involvement and localisation, strengthen domestic supplier capabilities and nuclear-quality standards, promote skills and technology transfer, and facilitate partnerships between local industries and experienced international suppliers.

1.2.7 *Public awareness and acceptance of nuclear energy and its applications;*

Public awareness and acceptance are essential for the successful development of a nuclear energy programme. Under the IAEA Milestones Approach, sustained, transparent and inclusive stakeholder engagement is required throughout the programme lifecycle to build public trust and secure the support of host communities and the wider public.Kenya has undertaken extensive public education

and stakeholder engagement on nuclear energy. However, there has been public resistance at the proposed sites for the first nuclear power plant driven by limited understanding and misinformation on Nuclear Energy, this undermines public trust and could delay or derail the programme.

There is a need to develop and implement a national nuclear communication and public engagement strategy; undertake continuous, transparent and inclusive engagement with host communities, county governments and other stakeholders; integrate nuclear science into education curricula and public awareness programmes; and establish mechanisms for addressing public concerns.

1.2.8 *Emergency Preparedness and Response*

IAEA Safety Standards Series No. GSR Part 7 (Preparedness and Response for a Nuclear or Radiological Emergency) establishes requirements for an adequate level of emergency preparedness and response.Kenya's emergency management system is anchored in the National Disaster and Risk Management Act other guidelines include the National Emergency Response Plan (NERP), CBRN Action plan, the EPR Integrated plan and Standard Operating Procedures among others. While these instruments assign institutional roles and coordination mechanisms, significant gaps remain in coordination, preparedness and response capacity for nuclear and radiological emergencies. There is therefore a need to strengthen institutional coordination, emergency response infrastructure, technical capacity, public communication and inter-agency cooperation to ensure timely and effective response to nuclear and radiological emergencies and safeguard people and the environment.

1.2.9 *Nuclear Funding, Financing and Procurement*

Nuclear energy projects are characterized by high upfront capital costs, long development and construction periods, and long operational lifetimes and therefore require financing arrangements that extend beyond the initial construction phase.

Kenya has the PFM Act to govern the use of public funds and the PPADA and PPPA to provide the procurement framework. Nuclear energy projects involve highly specialized, technically complex and long-term procurements that require considerations beyond conventional public procurement. Nuclear procurement decisions may also create long-term technical, financial, safety and liability obligations, making the selection of vendors and contractual arrangements critical to the success and sustainability of the national nuclear programme. There is a need to develop a lifecycle funding, financing and procurement framework for the nuclear power programme.

1.2.10 *Radiation protection and Environmental protection*

There is need for a comprehensive, integrated and effectively coordinated framework for radiation protection and environmental protection that addresses nuclear-specific risks and ensures the protection of workers, the public and the environment throughout the nuclear facility lifecycle, with clearly defined responsibilities for the relevant regulatory institutions (IAEA SSG-16 and GSR Part 3). This necessitates additional requirements covering radiation protection, environmental impact assessment, radioactive waste and spent fuel management, emergency preparedness, environmental monitoring, decommissioning and remediation in the existing framework.Kenya has legal and regulatory frameworks for radiation and environmental protection, including the Nuclear Regulatory Act, 2019 and the Environmental Management and Coordination Act (EMCA), No. 8 of 1999. However,the implementation of a nuclear energy programme requires strengthened coordination and harmonisation of the existing frameworks to address nuclear-specific risks and ensure effective regulatory oversight.

There is therefore a need to strengthen institutional coordination, regulatory capacity and environmental monitoring arrangements to protect workers, the public and the environment from the potential effects of ionising radiation throughout the nuclear lifecycle.

1.2.11 *Research capabilities*

Nuclear research, technology development and innovation are essential to building the scientific, technical and institutional capabilities required to support the development of a nuclear power programme. Research reactor facilities provide practical training in reactor operations, nuclear safety, radiation protection and maintenance, supports scientific research and innovation and increases the supply of nuclear education and training programmes.Kenya's limited nuclear research infrastructure constrains the development of national expertise, technology development, innovation and increases reliance on external technical assistance.There is a need to establish adequate nuclear research infrastructure, including specialised facilities and a research reactor, to develop national expertise for the nuclear workforce, support practical training, scientific research, innovation and the systematic development of national expertise required for the nuclear power programme.

1.3 POLICY RATIONALE

Kenya's industrialisation and inclusive economic growth require adequate, reliable, clean and competitively priced energy. Diversifying the national energy mix through the peaceful use of nuclear technology presents an opportunity to strengthen long-term energy security, support industrial development, promote value addition and expand the application of nuclear energy.

The development of nuclear energy requires a coordinated national framework addressing institutional arrangements, legal and regulatory requirements, financing, human resource development, nuclear safety, security, safeguards, radioactive waste management and the nuclear fuel cycle (NFC). These requirements are not comprehensively addressed within the existing energy policy framework, creating a need for dedicated policy direction to guide nuclear energy development and its peaceful applications.

A National Nuclear Energy Policy is therefore necessary to establish a framework for the safe, secure and sustainable development of nuclear energy, align the nuclear programme with national development priorities and international obligations, and guide the development of the institutional, technical and regulatory capacities required for implementation.

1.4 POLICY GOAL

The goal of this Policy is to provide a framework for the safe, secure and peaceful development and utilisation of nuclear energy and research, in support of Kenya's energy security, sustainable development and socio-economic transformation.

1.5 POLICY OBJECTIVES

The specific objectives of this Policy are to:

Integrate nuclear energy into the national energy mix to enhance energy security, reliability and diversification for socio-economic development.

Ensure the safe, secure and peaceful utilisation of nuclear energy in compliance with national and applicable international obligations and standards.

Establish and strengthen legal and regulatory frameworks necessary for effective coordination, oversight and sustainable implementation of the nuclear energy programme.

Mobilise sustainable financing and funding, strengthen human and institutional capacity, research, technological development and local industrial participation in the nuclear energy programme.

Strengthen national, regional and international cooperation, stakeholder participation and public awareness

1.6 SCOPE

The Nuclear Energy Policy provides a national framework for the safe, secure and peaceful use of nuclear technology for energy generation and nuclear research in Kenya, consistent with national legislation and applicable international obligations.

The Policy covers the institutional, legal, regulatory, technical and financial arrangements required to develop and implement the nuclear energy programme. It addresses nuclear safety, security and

safeguards; radiation and environmental protection; human resource development; research, innovation and technology localisation; financing and investment; NFC activities; radioactive waste and spent fuel management; emergency preparedness and response; decommissioning; national, regional and international cooperation and cross cutting issues

The Policy also provides for stakeholder engagement, public awareness and participation, and the development of local industrial capacity to support the sustainable implementation of the nuclear energy programme throughout its lifecycle.

It applies to relevant entities implementing the national nuclear energy programme.

1.7 STRUCTURE OF THE POLICY

The policy is structured in the following chapters: Introduction; Situation and gap analysis; Policy Statements; Framework for Policy Implementation; Monitoring and Evaluation; Policy Review. Annexures I and II include the Implementation and Monitoring Matrices. .

CHAPTER 2: SITUATIONAL AND GAP ANALYSIS

This section provides a comprehensive assessment of the current status of the issue addressed by this Policy, examining prevailing conditions, emerging trends, and any notable patterns that influence its development and implementation. The section reviews relevant regional and international frameworks to ensure alignment with best practices and global obligations. It further analyses the adequacy of existing policy, legal, and institutional frameworks in addressing the identified challenges, while highlighting gaps, overlaps, and areas requiring reform. The insights and lessons drawn from this analysis form the basis for identifying policy gaps and informing strategic interventions under this Policy.

2.1 Global and regional situation analysis

This section provides the status of the implementation of nuclear energy in the global and regional context, the frameworks available, the trends and lessons learnt from other jurisdictions:

2.1.1 *Global Context*

Globally, nuclear energy is increasingly being considered alongside renewables as a clean, reliable, and affordable source of energy. Its ability to provide stable and consistent power makes it relevant to countries seeking to decarbonize while maintaining electricity system reliability. International organisations are consequently supporting countries embarking on nuclear power programmes through capacity building, financing and infrastructure development. The International Atomic Energy Agency (IAEA), through its Milestones Approach, provides a structured framework to guide countries in developing the necessary infrastructure for safe, secure, and sustainable nuclear power programmes. It provides considerations for the appropriate governmental, legal, regulatory, institutional, technical, human and industrial infrastructure across the three phases.Financing nuclear plants is challenging due to huge upfront costs, long build times, and overrun risk. However, two major shifts are opening the sector to broader capital i.e. in June 2025 the World Bank lifted its ban on nuclear funding (in place since 2013), aiming to help developing nations finance clean energy. Subsequently, major investment banks such as Bank of America, Barclays, BNP Paribas, Citi, Goldman Sachs, and Morgan Stanley have endorsed tripling global nuclear capacity by 2050, signaling growing private-sector willingness to treat nuclear as an investable asset class.

The international legal framework on nuclear energy is built around four complementary pillars: nuclear safety; nuclear security; nuclear safeguards and civil liability. Nuclear safety protects people and the environment from accidental radiological risks; nuclear security prevents and responds to

intentional or malicious acts involving nuclear and radioactive materials; nuclear safeguards verify that nuclear materials and facilities are used exclusively for peaceful purposes; and civil liability establishes responsibility and compensation for nuclear damage arising from nuclear incidents. These instruments create a peer-review and verification system that underpins global nuclear governance.

According to the IAEA's Power Reactor Information System (PRIS) in 2026, 417 nuclear power plants are operational across 31 countries, with a combined net electrical capacity of approximately 380 GWe, supplying about 9% of global electricity generation. There are approximately 78 nuclear reactors under construction in 17 countries worldwide, representing approximately 81 GWe of net electrical capacity. Additionally nuclear research reactors play a significant role in advancing nuclear science, technology development, human-resource capacity building, and the peaceful applications of nuclear technology. With reference to the International Atomic Energy Agency (IAEA) Research Reactor Database, there are 849 research reactors worldwide, of which 227 are operational. These facilities support scientific research, training, medical and industrial applications, and the development of technical expertise necessary for national nuclear programmes. The global trend underscores the importance of investing in nuclear research infrastructure to strengthen institutional capacity, develop skilled personnel, and support the safe and sustainable development of nuclear technology.

The peaceful application of nuclear energy for electricity generation began in 1954 with the commissioning of the world's first nuclear power plant at Obninsk in the former Soviet Union (present-day Russia), marking a significant milestone in the development of civilian nuclear power.Over the years the installed capacity has steadily increased to approximately 380 GWe as of 2026.

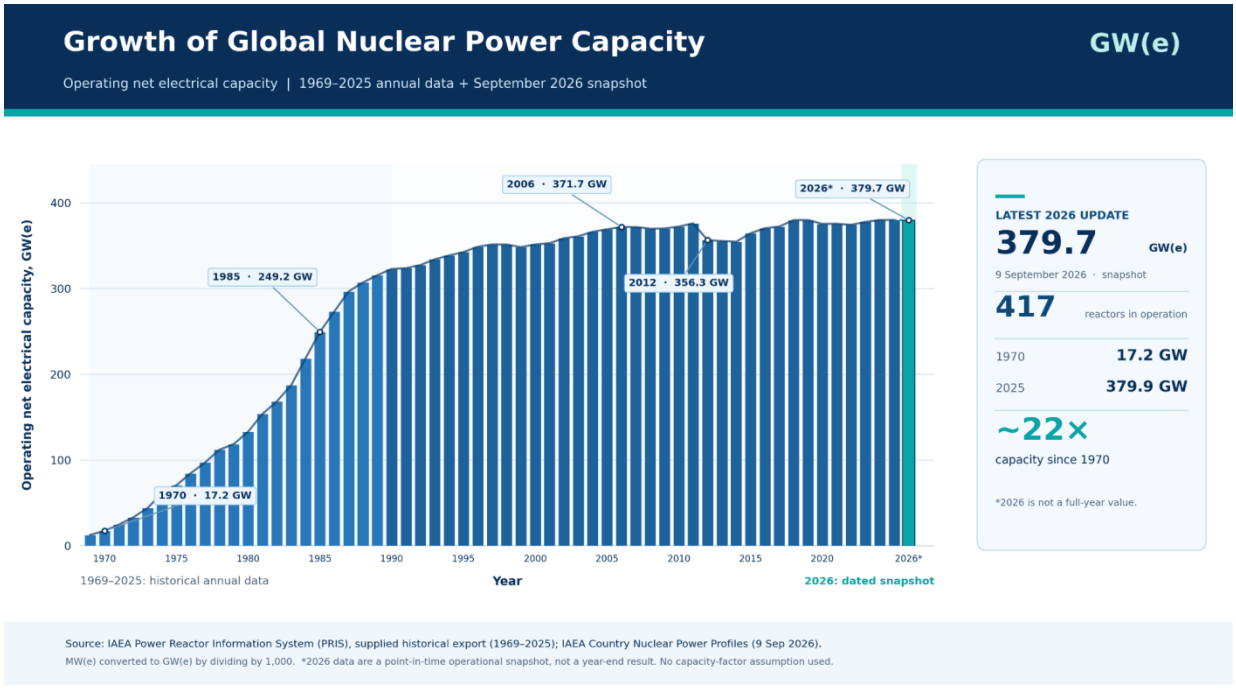


Figure 1: Global Growth of Nuclear Power Installed Capacity

Source: IAEA Power Reactor Information System (PRIS), 2026

Experience from countries with advanced nuclear programmes provides important lessons for Kenya in developing a comprehensive framework for the safe, secure, sustainable and economically viable development of nuclear energy. Countries with operating nuclear power reactors include the United States, China, France, Russia, the Republic of Korea, India, Canada, Ukraine, Japan, the United Kingdom, the United Arab Emirates, South Africa, among others.

The United States of America has a mature nuclear industry generating 8% of total electricity generation using nuclear power across 57 nuclear power plants, providing approximately 98.4 GWe of installed capacity (Ref: U. S. Energy Information Administration, monthly energy review, March 2026). They have deployed advanced reactors and small modular reactors, restarted previously closed plants, strong domestic nuclear fuel and supply chains, and increased investment in nuclear research and workforce development. This experience demonstrates the importance of strong government policy support, an independent and capable regulatory framework, sustained investment in research and development, university-industry partnerships, development of specialised human capital, private-sector participation, and a resilient domestic nuclear supply chain.

France has developed one of the world's most established nuclear power programmes, with 58 nuclear plants in operation producing 373 TWh of nuclear electricity accounting for about 68% of

electricity generation. Its experience demonstrates the value of long-term policy consistency, strong technical institutions and a domestic nuclear industry. However, high costs of new construction and the need to retain specialized skills highlight the importance of lifecycle planning, sustainable financing and continuous investment in human and institutional capacity.

China has 58 nuclear power units in commercial operation and 27 units under construction, with nuclear power contributing approximately 4.47% of total electricity generation (Ref: Statistical Communiqué of the People's Republic of China on the 2025 National Economic and Social Development). Its experience of standardisation of reactor designs, development of domestic nuclear technology and manufacturing capabilities, investment in research and development, progressive nuclear supply chain and skilled workforce demonstrates the importance of long-term government commitment, coordinated institutional planning, technology localisation and transfer, development of domestic industrial capacity, investment in human resources and research, and the progressive building of capabilities alongside nuclear power deployment.In South Korea, nuclear energy provides roughly 30% of the total electricity production giving approximately 25.6 GWe across the operational 26 commercial nuclear reactors. It demonstrates the benefits of sustained investment in human capital, research and development, technology transfer, and local industrial participation.

The UAE Barakah Nuclear Power Plant, comprising four APR-1400 reactors, became fully operational with Unit 4 entering commercial operation in September 2024. It was shaped around a strong political commitment, clear institutional responsibilities, effective programme management, regulatory capability, international partnerships, and early development of human resources. This provides a particularly relevant model for a newcomer country like Kenya. The programme demonstrates the importance of strong political commitment, clear institutional responsibilities, effective programme management, regulatory capability, international partnerships, and early development of human resources.

The global assessment shows successful and sustainable introduction of nuclear power plants requires early progressive development of robust scientific, technical, human, institutional, and regulatory capabilities. Research reactors are an important component of this infrastructure, providing a platform for developing the capabilities required to support a national nuclear power programme while contributing to national development across multiple sectors. According to IAEA's Research Reactor Database, there are approximately 228 operational research reactors in 54 countries demonstrating their continued importance in supporting nuclear energy development globally.

There is an international legal framework that establishes obligations relating to nuclear safety, security, safeguards, non-proliferation, radioactive waste management and emergency preparedness. This Policy therefore defines Kenya's national position on nuclear energy; clarifies institutional roles and regulatory independence; ensures compliance with international obligations; addresses the entire nuclear lifecycle; and provide for human-resource development, financing, industrial participation and stakeholder engagement.

2.1.2 *Regional Context – Africa*

Across Africa, an increasing number of countries are exploring nuclear power to enhance energy security, diversify their energy mix, support low-carbon development and advance national development objectives. However, countries are at different stages of nuclear power programme development, ranging from initial consideration and infrastructure development to the construction and operation of nuclear power plants. These varying levels of progress highlight the importance of institutional preparedness, effective regulatory frameworks, sustainable financing, human resource development and international cooperation in establishing successful nuclear power programmes.

South Africa operates the Koeberg Nuclear Power Station which comprises two reactor units commissioned in 1984 and 1985, with a combined capacity of approximately 1,854 MWe which contributes about 4–5% of the country's electricity generation. South Africa's experience demonstrates the importance of a strong safety culture, independent regulation, specialised human resources and sustained investment in plant maintenance and life extension. Its consideration of additional nuclear capacity also highlights the need for comprehensive lifecycle planning, public participation and sustainable financing.

As of 2026, Egypt is constructing four nuclear power reactor units at the El Dabaa Nuclear Power Plant, with a combined planned capacity of 4,800 MWefollowing the IAEA milestone approach. Additionally, the country constructed the nuclear research reactor project first that helped in establishing their institutional and legal framework. Egypt is financing the project through a government-to-government arrangement with the Russian Federation, financing 85% of the project's estimated $30 billion cost through a state export loan, with Egypt funding 15%. This approach illustrates the importance of sustained government commitment, early institutional and regulatory preparation, international cooperation and a clear financing strategy. It also highlights the scale of financial, technical and institutional capacity required to implement a nuclear power programme.

Seven African countries;(Algeria, Egypt, Ghana, Libya, Morocco, Nigeria and South Africa) have established research reactor facilities to support nuclear research, education and training, as well as the provision of specialised services across various sectors. Their experience demonstrates the role of research reactors in strengthening national scientific and technical capacity and advancing nuclear science and technology. For Kenya, these experiences provide useful lessons on the potential contribution of research infrastructure to human resource development, technical capacity building and the gradual development of a national nuclear energy programme.

Other African countries are considering nuclear power and are at different stages of development of their programmes, as illustrated in Figure 2. The varying timelines underscore the need for countries to align their nuclear ambitions with the readiness of their legal and regulatory frameworks, electricity infrastructure, human resources and financing arrangements. For Kenya, these regional experiences provide important lessons on the need for phased programme development, strong institutional coordination, capacity building and long-term financial planning.

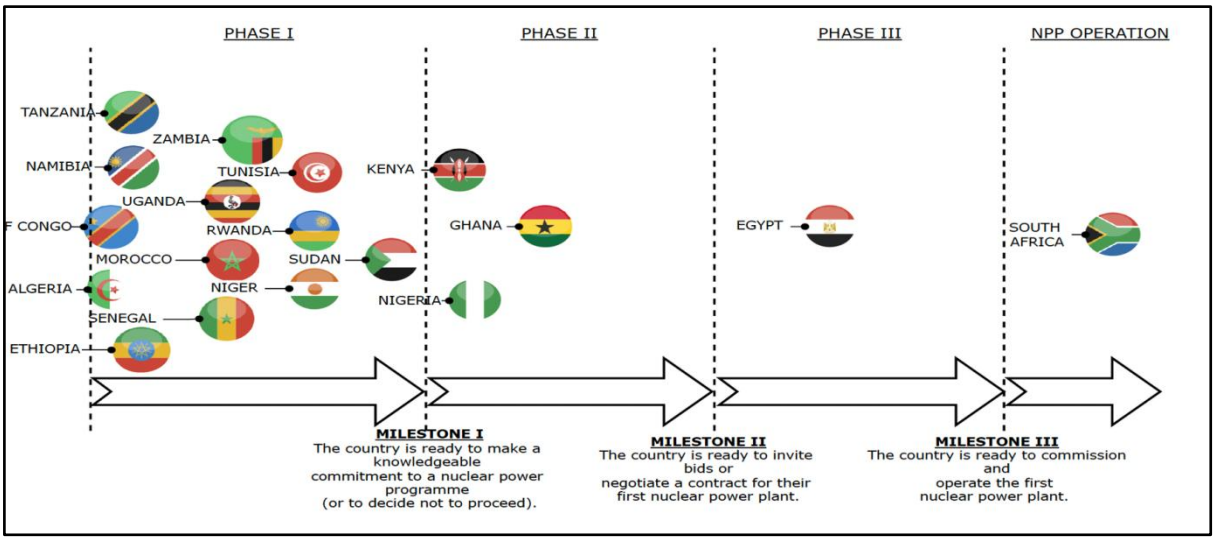


Figure 2: Status of Nuclear Power Programme Development in Africa

Source: Nuclear Business Platform (publication details and date to be confirmed).

The development of Kenya's Nuclear Energy Policy is informed by established regional and international legal and institutional frameworks governing the peaceful use of nuclear energy. These frameworks provide guidance on nuclear safety, security, safeguards, regulatory oversight, environmental protection, radioactive waste management, emergency preparedness and international cooperation. At the regional level, instruments and institutions such as the Treaty of Pelindaba, the Bamako Convention, the African Union and the African Commission on Nuclear Energy (AFCONE) provide important reference points for strengthening nuclear governance and

cooperation among African countries. Their experiences and frameworks offer lessons for Kenya in establishing the institutional, regulatory and technical foundations necessary for the safe, secure and sustainable development of nuclear energy.

2.2 National Context

Nuclear energy is a strategic option for diversifying the national energy mix and meeting long-term electricity demand for sustainable development. Kenya has adopted the IAEA milestone approach and is currently in Phase 2 of both the nuclear power plant and the nuclear research reactor projects, having made a knowledgeable decision to pursue the nuclear power programme. The country is currently undertaking pre-construction activities.

Kenya plans to construct its first nuclear power plant (NPP) with an installed capacity of 1000 MWe by 2034 and an additional 1000MWe in 2036, subject to the completion of the necessary technical, legal, policy, regulatory, environmental, financial and infrastructure requirements. Additionally, the country is implementing a nuclear research reactor project to support nuclear energy development by providing operational experience for the nuclear workforce, enhancing institutional capacity, and to address applications in health, education, research, and industry. Additionally, the country is implementing a nuclear research reactor project to support nuclear energy development by providing operational experience for the nuclear workforce and to address multidisciplinary applications. In the implementation of the nuclear power programme, the country has entered into a memorandum of understanding (MoUs) with various countries with advanced nuclear programs including the USA and the Republic of Korea Through the MoUs the country has continued to develop its human and institutional capacity in readiness for the implementation of the programme.

The development of nuclear power plant and research reactor projects is highly capital-intensive, requiring substantial investment in infrastructure and careful consideration of sustainable financing and funding mechanisms. However, the long operational life cycle (60+ years), competitive costs for fuel are advantages of nuclear power in terms of supply dependency and fluctuation of fuel cost.

For a successful implementation of the nuclear programme, the following key aspects of the infrastructure issues needs to be addressed:

2.2.1 *Nuclear safety, security, safeguards, and civil liability for nuclear damage*

The country has made progress in establishing legal and technical frameworks for nuclear safety, nuclear security and physical protection and the implementation of safeguards across its nuclear

energy programme..The development of the nuclear safety, security, and safeguards regime in Kenya is anchored in the Nuclear Regulatory Act, Cap. 243.

Nuclear safety is underpinned by the Nuclear Regulatory Act. However, Nuclear Safety subsidiary legislations and/or regulations and associated technical guides are yet to be developed. Nuclear safety treaties and conventions have been identified but are yet to be ratified/concluded. There is limited human and institutional capacity on nuclear safety in relevant organizations.

Kenya Nuclear and Regulatory Authority provides the regulatory oversight and coordination function within the national nuclear security regime. The country has established a multi-agency Nuclear Security Coordination Centre to coordinate threat assessments and nuclear security activities. Kenya has adopted the Chemical, Biological, Radiological, and Nuclear (CBRN) National Action Plan (2025) as part of strengthening the national framework for mitigating nuclear and radiological security risks.

Kenya is a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Convention on the Physical Protection of Nuclear Material (CPNMM) and its Amendment, and has signed the Comprehensive Safeguards Agreement (CSA) and the Additional Protocol (AP) The Nuclear Regulatory Authority (KNRA) is responsible for the control and accounting of nuclear materials.

Despite this progress, there is a need to strengthen coordination among the agencies responsible for national nuclear security, build adequate human and institutional capacity, and address cybersecurity and emerging threats.

A nuclear civil liability and compensation regime to support the country's planned nuclear power programme is entrenched in international legal instruments. These key international nuclear liability instruments, including the Vienna Convention on Civil Liability for Nuclear Damage, the Joint Protocol Relating to the Application of the Vienna and Paris Conventions, and the Convention on Supplementary Compensation for Nuclear Damage, are yet to be acceded to and domesticated.

2.2.2 *Nuclear fuel cycle & radioactive waste management*

Kenya is developing its nuclear energy programme but does not currently operate commercial nuclear fuel cycle (NFC) facilities or produce uranium. The country has adopted a NFC Policy that prioritises procuring low enriched uranium (LEU) and fabricated nuclear fuel from international suppliers rather than establishing domestic enrichment and fuel fabrication facilities.

Radioactive waste from medical, industrial, agricultural, and research activities is stored at the Central Radioactive Waste Processing Facility. However, Kenya lacks a comprehensive long-term solution for spent fuel management, radioactive waste disposal, and nuclear facility decommissioning.

Key challenges include gaps in regulatory and institutional frameworks, limited technical expertise, and the need to strengthen long-term waste management arrangements. Kenya is also not yet a party to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

Priority actions include strengthening the legal and regulatory framework, implementing the national NFC policy, developing spent fuel and radioactive waste management strategies, building technical capacity, assessing uranium and thorium resources, and establishing sustainable waste management and disposal solutions.

There is a need for development of strategies for exploration and quantification of uranium and thorium reserves and for enhancing research and development in the NFC and radioactive waste management.

2.2.3 *Human Resource Development*

Kenya has established cooperation agreements and partnerships with international organisations and countries with advanced nuclear programmes to support human-resource and institutional capacity development for its nuclear power programme. Through the IAEA and bilateral partnerships with nuclear-experienced countries, including South Korea, China and the United States, Kenya has facilitated postgraduate education, specialized training, fellowships, and scientific visits.

The average workforce required in a nuclear power plant is 1000. The distribution of operational workforce of a nuclear power plant is primarily composed of certificate-level skilled personnel (57%) and diploma holders (18%), supported by engineering and science graduates (20%) and nuclear engineers (5%), highlighting the importance of technical and vocational skills in sustaining safe and reliable plant operations.

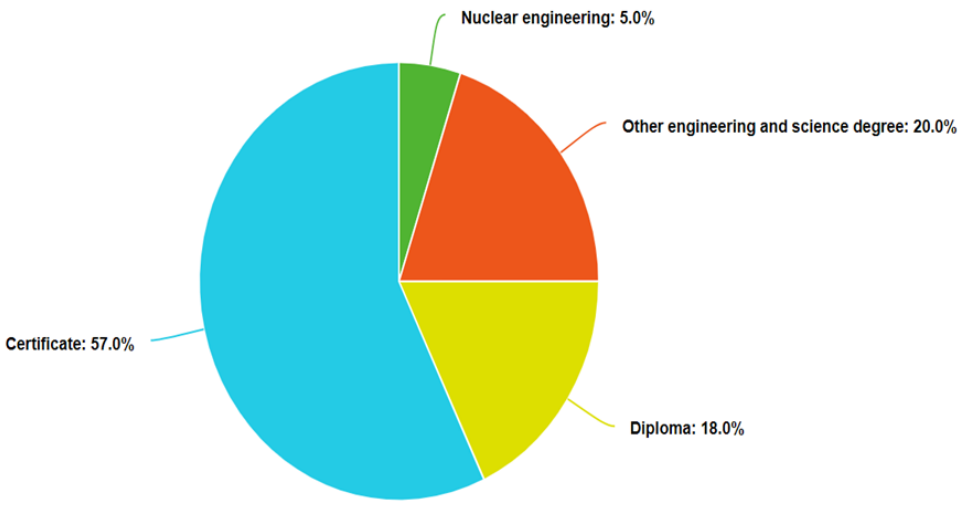


Figure 3; Composition of Nuclear Power Plant Workforce

Although these initiatives have significantly enhanced Kenya's nuclear expertise, there remains a need for a comprehensive Human Resource Development (HRD) Strategy to ensure an adequate and sustainable pipeline of qualified personnel across the nuclear programme, including the promoter, owner/operator, regulator, and supporting institutions, while also addressing workforce retention and succession planning. Therefore, substantial human resource capacity will be required to support the development, operation, regulation, and maintenance of nuclear installations and associated infrastructure. It is important for the country to strengthen and sustain strategic national and international partnerships in capacity building and technology transfer.

2.2.4 *Funding, financing, and procurement*

2.2.4.1 Funding and financing:

Kenya's nuclear energy programme requires significant and sustained financial resources to support programme development, regulatory capacity, infrastructure development, human resource development, research and development, and eventual construction and operation of nuclear facilities. Funding, financing, and procurement for the nuclear energy programme are undertaken within public finance, public investment, and public procurement frameworks.

The Public Finance Management framework provides for the planning, budgeting, allocation, and accountability of public resources, while the Public Procurement and Asset Disposal framework provides the basis for procurement by public entities. Regarding institutional capacity, The National Treasury is responsible for government budgeting, public investment planning, sovereign financing

and the development of appropriate financing arrangements for major national infrastructure projects.

Nuclear projects require long-term financial commitments, substantial upfront capital, and specialized contractual arrangements that take account of nuclear safety, quality assurance, technology transfer, localisation and long-term supplier responsibilities. Kenya does not have a dedicated nuclear financing strategy for the nuclear energy programme. The absence of an explicit financing strategy increases the risk of cost escalation, funding gaps, and delays. Strengthening coordination with the National Treasury is therefore critical to ensure alignment with best practices for financing nuclear infrastructure.

2.2.4.2 Procurement:

Procurement is governed by the Public Procurement and Asset Disposal Act (CAP 412C), its attendant Regulations, and applicable guidelines are issued by the Public Procurement Regulatory Authority, which seeks to ensure fair, equitable, transparent, competitive, and cost-effective procurement of goods or services. The Public Private Partnership Act provides an alternative procurement framework for PPP projects. Despite this framework, the nature of the procurement of nuclear energy-related goods, including safety and non-proliferation considerations, limited suppliers of components, and long lead times for component supply and financing, among other unique aspects, necessitates the development of a procurement strategy for the nuclear energy programme.

2.2.5 ***Regional and international cooperation.***

Kenya is a member of the IAEA, having signed the Statute of the IAEA in 1965, and has a National Liaison Office responsible for coordinating IAEA cooperation. Kenya's nuclear programme is supported by a range of international and regional institutions that contribute to nuclear safety, security, regulatory capacity, verification, human capacity development, and socio-economic development. The IAEA provides technical assistance, safety and security support, and infrastructure reviews, while the UN Security Council supports international obligations relating to CBRN matters and disarmament. At the regional level, African Commission on Nuclear Energy (AFCONE) supports verification and conflict management under the African Nuclear-Weapon-Free Zone framework, while African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA) promotes the use of nuclear science and technology for socio-economic development. The African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology

(CTBTO) supports global nuclear-test monitoring and verification, with Kenya hosting monitoring stations at Kilimambogo and Karura.

The World Institute of Nuclear Security (WINS) supports professional development and nuclear security training, including cybersecurity and threat mitigation, while the EU Chemical Biological Radiological and Nuclear (CBRN) Centres of Excellence contribute to radioactive waste management and national CBRN preparedness. The International Commission on Radiological Protection (ICRP) provides recommendations and standards that inform national radiation protection frameworks, while nuclear energy and technology developers contribute to institutional and human capacity building. Kenya's international cooperation in the nuclear sector faces several challenges, including limited international collaboration arising from an inadequate institutional coordination framework; and international cooperation is also constrained by an inadequate legal framework, which may limit the effective establishment and implementation of cooperation arrangements.

2.2.6 *Research, Development and Innovation*

The Science, Technology and Innovation Act (Cap. 511) establishes the National Commission for Science, Technology and Innovation (NACOSTI) to oversee and coordinate research and innovation activities and provides for the establishment of the National Research Fund (NRF). The Energy Act, Cap. 314establishes the Nuclear Power and Energy Agency (N*u*PEA), with responsibility for coordinating and implementing Kenya's nuclear power programme, including undertaking nuclear energy research, development, and dissemination activities in the energy and nuclear power sector.

Currently, the country is in Phase 2 of the IAEA Milestones Approach for the 10 MWth research reactor project, with commissioning planned for 2032. The project is implemented by NuPEA under an inter-ministerial committee chaired by the Ministry of Energy and Petroleum. It will support workforce training for Kenya's nuclear power programme and provide research products and services for national and regional applications.

However, strengthening the policy, legal, institutional, and research infrastructure frameworks is essential to coordinate and support nuclear research, development, and innovation in line with national priorities and the safe, secure, and peaceful use of nuclear technology. Adoption of the IAEA Code of Conduct on the Safety of Research Reactors is also required.

2.2.7 *Localisation and industrial involvement*

Kenya's nuclear energy programme provides an opportunity to develop local industrial capacity, strengthen domestic supply chains, create employment, and enhance the participation of Kenyan

enterprises in the nuclear energy value chain. Kenya has established a legal and policy framework that supports local participation, enterprise development, public procurement, skills development, investment, and industrialisation. These include the Public Procurement and Asset Disposal Act (PPAD) Cap. 412C of 2015, which provides for participation of local enterprises in public procurement; the PPAD (Preference and Reservations) Regulations, 2011, which provide for preferential opportunities for local and disadvantaged groups; the sessional paper no. 9 of 2012 on the National Industrialization Policy, which promotes industrial development and local value addition; and the Kenya Investment Authority framework, which supports investment and enterprise development. The TVET framework and related skills-development policies further provide a basis for developing the technical skills required for industrial participation. Despite these frameworks, Kenya faces limited domestic nuclear-specific industrial capacity, inadequate experience among local enterprises in nuclear projects supply, gaps in specialized skills and certification, limited access to nuclear technology and know-how, limited preparedness of local enterprises to meet the stringent quality assurance, quality control and regulatory requirements applicable to the nuclear industry.

2.2.8 *Stakeholder engagement and public participation*

International guidance, including IAEA stakeholder engagement standards, emphasizes the importance of transparent, inclusive, and continuous public participation throughout the development of a nuclear programme. The Constitution of Kenya, 2010, establishes participation of the people as a national value and principle of governance under Article 10 and specifically requires the State to encourage public participation in environmental management under Article 69. It also provides for access to information under Article 35, which is important for ensuring that the public has access to information necessary for meaningful participation. The Energy Act, 2019 mandates NuPEA the responsibility for undertaking public education and awareness on Kenya's nuclear power programme. The Access to Information Act, 2016 provides the legal basis for access to information held by public entities, subject to the applicable limitations.

Kenya has undertaken stakeholder engagement activities for the nuclear power programme through public forums, media outreach, community sensitization programmes, workshops, surveys, and consultations with local leaders and communities. While these efforts have increased awareness and engagement, public understanding of nuclear energy and technology remains low, with varying perceptions across potential project areas. As Kenya advances its nuclear power programme, strengthening public awareness, stakeholder confidence, and institutionalized engagement mechanisms will remain essential for informed decision-making and public acceptance.

2.3 Policy, Legal and Institutional Frameworks

The policy, legal, and institutional frameworks to support the development and implementation of the Nuclear Power Programme is as discussed below.

2.3.1 *Policy and Development Agenda*

The development and utilisation of nuclear energy are aligned with the national development priorities as well as regional and international development frameworks.The United Nations 2030 Agenda for Sustainable Development provides a global blueprint for achieving peace, prosperity, and sustainable development for people and the planet through its 17 Sustainable Development Goals (SDGs). The other international frameworks include; the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Paris Agreement, which guide global efforts to mitigate greenhouse gas emissions, strengthen climate resilience and promote low carbon development. Nuclear energy contributes to these goals by providing low-carbon electricity, advancing healthcare services, supporting clean water initiatives, enabling industrial development, creating employment opportunities, and reducing greenhouse gas emissions. As such, nuclear energy, nuclear research and research reactor applications directly support the achievement of several SDGs, including Goals 1, 3, 7, 8, 9, 11, and 13.

At the regional level, the utilisation of nuclear energy and technology contributes to the vision of the East African Community (EAC) Vision 2050, which is to transform the region into a prosperous, high-middle-income, and globally competitive community through improved infrastructure, trade, and quality of life by providing nuclear power and research for driving sustainable regional growth. Similarly, the African Union's Agenda 2063 provides a strategic framework for the continent's social, political, and economic transformation, which puts the nuclear energy programme as an important tool for accelerating industrial development, strengthening research capacity, and promoting economic growth across Africa.

Kenya Vision 2030 recognises energy as contributing to transforming the country into a newly industrializing, middle-income nation with a high quality of life for all citizens, therefore putting nuclear power as central to achieving sustainable energy for Kenya. The Sessional Paper No. 5 of 2026 on the National Energy Policy 2025 underscores nuclear power as a dependable source of clean, affordable, competitive, sustainable, and reliable energy to support national development and identifies it as part of Kenya's long-term energy mix. The Least Cost Power Development Plan (LCPDP) 2024–2043 guides the expansion of Kenya's electricity generation and transmission

capacity to meet projected demand at least cost. It includes nuclear power in the long-term generation mix to meet future electricity needs and diversify the country's energy sources.

2.3.2 Legal Framework analysis

The development and implementation of a nuclear power programme require a robust legal and regulatory framework comprising national laws, regulations, and regulatory requirements, supported by relevant international conventions, treaties, and agreements.

1.1.1.1 International Legal Framework

Kenya has ratified key international instruments in the areas of nuclear security and safeguards (non-proliferation) and is yet to accede to conventions on nuclear safety and liability for nuclear damage as provided in Table 3 below. There is an urgent need to ratify and domesticate the requirements of the safety, civil liability and compensation regime for nuclear damage in readiness for the implementation of the power programme.

Table 1: International instruments on nuclear matters in relation to Kenya

	Relevant Area	**International Instruments**	**Status**
1	Nuclear Security	a. The Convention on the Physical Protection of Nuclear Material (CPPNM) and its 2005 Amendment b. The International Convention for the Suppression of Terrorist Bombings (the Terrorist Bombings Convention) c. International Convention for the Suppression of Acts of Nuclear Terrorism (the Nuclear Terrorism Convention) d. The International Convention for the Suppression of the Financing of Terrorism e. UN Security Council Resolutions 1373(2001) and 1540(2004) adopted under Chapter VII of the UN Charter	Kenya is a state party.
2	Nuclear Safeguards (non-proliferation)	a. The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) b. Protocol Additional to Agreements between States and the IAEA for the Applications of Safeguards (The Additional Protocol)	Kenya is a state party.

		c. The African Nuclear-Weapon Free Zone Treaty (Treaty of Pelindaba) d. Comprehensive Nuclear Test Ban Treaty e. 1963 Partial Test Ban Treaty	
3	Nuclear Safety	a. The Convention on Nuclear Safety b. The Convention on Early Notification of a Nuclear Accident c. The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency d. Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	Not a state party
4	Civil liability for nuclear damage/ nuclear liability	Kenya is considering the following: a. The Vienna Convention on Civil Liability for Nuclear Damage (1963) and the 1997 Protocol b. The Convention on Supplementary Compensation for Nuclear Damage (1997)	Not a state party

1.1.1.2 National Legal Framework

The development of Kenya's Nuclear Power Programme is anchored on the Constitution of Kenya, which is the supreme law governing Kenya's nuclear power programme. The adherence to national values, environmental protection, public participation, good governance, and protection of natural resources as per Articles 10, 42, and 69 must apply throughout the lifecycle of the nuclear power programme. The Constitution of Kenya 2010 is the supreme law in Kenya under which the energy sector and this Policy is aligned to. It covers various aspects pertaining to the sector including citizen rights, protection and development of natural resources, devolution matters, and various aspects of ensuring sustainable and prudent use of the country's resources. The Executive Order No. 1 of 2025 provides the framework for organizing government institutions and implementing national priorities, including the nuclear energy programme. The Energy Act (Cap. 314) establishes NuPEA as the Nuclear Energy Programme Implementing Organisation (NEPIO) responsible for coordinating and implementing Kenya's nuclear power programme. The Nuclear Regulatory Act (Cap. 243) provides the framework for the safe, secure, and peaceful use of nuclear energy and radiation technologies. It establishes the Kenya Nuclear Regulatory Authority as the nuclear regulatory body.

The Environmental Management and Coordination Act (Cap. 387) provides the legal framework for environmental protection and management. It requires undertaking Strategic Environmental Assessments (SEA) for relevant policies, plans, and programmes and Environmental and Social Impact Assessments (ESIA) for projects with significant environmental impacts. These requirements ensure environmental, social, and ecological issues are considered during site selection, construction, operation, and decommissioning of nuclear facilities.

The funding, financing and procurement of the nuclear power program is supported by the Public Finance Management Act, the Public Procurement and Asset Disposal Act, the Public Private Partnership Act (Cap 430), the Government Owned Enterprise Act, 2025 and the National Infrastructure Fund Act 2026. The Public Private Partnership Act provides a legal framework for collaboration between the government and private sector in financing, developing, and operating infrastructure projects. The National Infrastructure Fund Act 2026 establishes a National Infrastructure Fund for the funding of major projects including electricity generation, transmission and distribution infrastructure. The provisions of the GOE Act that provides for the establishment, control, governance, performance and ownership of Government Owned Enterprises; of the key entities including KenGen and KETRACO who have a key role in implementing the nuclear power programme.

The Science, Technology, and Innovation Act (Cap. 511) promotes science, technology, and innovation as drivers of national development and supports research, technological advancement, capacity, and innovation, including in the physical, industrial, and energy sciences. It establishes the National Commission for Technology, Science, and Innovation (NACOSTI) to regulate and coordinate research.

Other supporting national legal instruments includes the Physical and Land Use Planning Act (Cap 303), the Land Act (Cap 280), Data protection Act (Cap 411C), the Treaty Making and Ratification Act (Cap 4D), the National Disaster Risk Management Act (No. 16 of 2026), the Climate Change Act (Cap 387A), Water Act (Cap 372), the Public Health Act (Cap 242), Occupation Health and Safety Act (Cap 236A), the Mining Act (Cap 306) and the Access to Information Act, 2016.

The development and adoption of a comprehensive and enabling policy framework for the nuclear power programme will address the legal and regulatory gap and the key constraints to progressing the programme to subsequent implementation phases.

2.3.3 *National Institutional Framework*

Kenya's institutional framework for nuclear energy governance comprises a range of public institutions whose mandates are directly or indirectly relevant to the development, deployment,

regulation, and oversight of nuclear energy and research reactor technologies. At the center of this framework is the Ministry responsible for Energy and Petroleum, which provides overall policy leadership and coordination. The three (3) key institutions for the development and implementation of the Nuclear Power Programme have been established: the Nuclear Power and Energy Agency (NuPEA) as the programme promoter, the Kenya Electricity Generating Company (KenGen) as the designated owner/operator for the first nuclear power plant, and the Kenya Nuclear Regulatory Authority (KNRA) as the nuclear regulatory body. Other relevant institutions to the nuclear energy programme include the National Environment Management Authority, Kenya Electricity Transmission Corporation (KETRACO), and the National Commission for Science, Technology, and Innovation (NACOSTI).

However, the established entities currently have inadequate institutional, technical, and human resources capacity to execute their mandate in line with the development and implementation of the nuclear power programme. The interagency coordination and clarity of roles for nuclear energy and research need to be defined and strengthened.

2.4 Cross-cutting Issues

2.4.1 *Occupational Safety and Health (OSH)*

The IAEA, through member states, has developed Safety Standards Series (SF-1) that guide on the protection of workers, the public, and the environment from the harmful effects of ionizing radiation (GSG-8). The Constitution of Kenya, 2010 provides for fair labour practices and the right to a safe and healthy working environment and protection from hazardous conditions for workers in any industry. Occupational Safety and Health Act (Cap. 236A) is the statutory law that secures the safety, health, and welfare of workers and all persons lawfully present at workplaces in Kenya. The nuclear energy sector, in particular the handling of nuclear and radioactive materials across the nuclear life cycle, involves high-risk activities that require sector-specific strategies to entrench compliance with existing OSH frameworks.

2.4.2 *Data Management, Cyber Security, ICT and Artificial Intelligence*

The nuclear energy sector is reliant on digital systems and interconnected technologies for energy planning and to drive nuclear safety, operational efficiency, reliability, and innovation. AI would be applied in energy systems to optimize energy production, consumption, and grid management. Therefore, there is a need for a centralised hub for data collection, processing and dissemination in the nuclear energy sector. This includes establishing a framework for coordinating cybersecurity and data protection measures, enhancing capacity-building initiatives, allocating adequate resources to

effectively implement and maintain cybersecurity measures across all institutions in the nuclear sector.

2.4.3 *Gender Equality, Diversity, and Social Inclusion in Energy (GEDSI)*

GEDSI principles advocate for equal access and opportunities and removing the barriers of discrimination towards marginalised and vulnerable populations. There is insufficient GEDSI-responsive institutional frameworks in the nuclear energy sector, and gender mainstreaming activities remain low and inadequate. To address GEDSI challenges and leverage available opportunities, a GEDSI Strategy and Action Plan for the nuclear energy sector needs to be developed and implemented.

2.5 Summary of gaps

1. No funding and **financing strategy** for the nuclear power programme covering project preparation, construction, operation, decommissioning, and waste management. The absence of a dedicated financing strategy increases fiscal risks.
2. Inadequate policy, legal, and regulatory framework for nuclear security, safety, safeguards, and civil liability for nuclear damage.
3. Insufficient technical, human-resource, technological and industrial capabilities.
4. The Nuclear power programme lacks an overarching coordinated framework/strategy for stakeholder engagement and public participation, leading to low public understanding and occasional hostility toward nuclear energy programme activities
5. The absence of a comprehensive national policy and strategy for spent fuel management and radioactive waste disposal;
6. Quantification of uranium and thorium reserves not yet undertaken
7. Limited coordination in the nuclear sector leading to fragmented nuclear research, development, and dissemination
8. Lack of an integrated EPR Action Plan
9. Institutional capacity for specialized nuclear procurement remains underdeveloped.
10. Effective integration of nuclear safety and environmental monitoring is hindered by inadequate coordination between regulatory bodies.
11. Insufficient GEDSI-responsive institutional frameworks in the nuclear energy sector, and gender mainstreaming activities remain low and inadequate.

CHAPTER 3: POLICY STATEMENTS

This chapter presents the policy statements and strategies that will be implemented to support the development and utilisation of nuclear energy in Kenya.

3.1 POLICY STATEMENTS AND ACTIONS

Policy statement 1:

The objective of this statement is to integrate nuclear energy into the national energy mix to enhance energy security, reliability and diversification for socio-economic development.

1. Integration of nuclear energy into the energy mix

Kenya requires a diversified, secure and sustainable energy mix to meet projected electricity demand and support industrialisation and economic growth. The existing generation sources are not adequate to ensure long-term energy security, reliable electricity supply to meet growing demand for socio-economic development. Nuclear power offers the potential to provide firm, low-carbon electricity to complement existing generation sources. Its development will require coordinated energy planning, appropriate infrastructure, a supportive legal and regulatory framework, and adequate technical and financial capacity.

To achieve this objective, the government will:

1. Develop and deploy nuclear power plants and associated facilities.
2. Integrate the nuclear power programme into the national planning process.

Policy Statement 2:

The objective of this statement is to ensure the safe, secure and peaceful utilisation of nuclear energy in compliance with national and applicable international obligations and standards.

Nuclear safety, security and safeguards

The development and utilisation of nuclear energy require robust safety, security and safeguards arrangements to protect people and the environment and ensure the peaceful use of nuclear technology. Weaknesses in leadership and management systems, safety and security culture, institutional frameworks and technical capacity may compromise effective accident prevention, protection against malicious acts involving nuclear and radioactive materials and compliance with international non-proliferation obligations. Kenya therefore needs an effective regulatory oversight mechanism, clearly defined institutional responsibilities, strong safety and security cultures, and

sustained technical capacity to support nuclear safety, security and safeguards throughout the lifecycle nuclear facilities and activities

To achieve this objective the Government will:

1. Establish frameworks and programmes to strengthen leadership, management and organizational culture for nuclear safety and to monitor and control exposure to ionizing radiation
2. Establish and maintain a national nuclear security regime to protect nuclear facilities and materials and detect and respond to nuclear security threats, including material outside regulatory control.
3. Establish and maintain a national system for the accounting for and control of nuclear material to fulfil applicable safeguards obligations.
4. Develop and implement a comprehensive nuclear and radiological emergency preparedness and response framework.
5. Develop a nuclear liability and compensation framework

Policy statement 3

The objective of this statement is to strengthen legal and regulatory frameworks necessary for effective coordination, oversight and sustainable implementation of the nuclear energy programme.

Nuclear institutional, legal and regulatory framework

Kenya's nuclear energy programme requires a clear, coordinated and sustainable institutional, legal and regulatory framework to support its development and implementation. Although key institutions to implement the nuclear programme have been established and the legal framework is available, it however remains inadequate. There is a need to ensure effective coordination, strengthen institutional capacity and clarify mandates. This will provide a sound governance framework for the safe, secure and sustainable development of nuclear energy in accordance with national legislation and applicable international obligations.

To strengthen the legal and regulatory framework for nuclear energy, the Government will:

1. Review and strengthen the legal and regulatory framework including clarifying institutional mandates and coordination arrangements for the ownership, development, operation and regulation of nuclear power in line with national legislation and applicable international obligations.

2. Ratify, domesticate and implement applicable international instruments on nuclear safety, security and safeguards.
3. Strengthen the capacity, and independence of the national nuclear regulatory body.
4. Develop and implement a national policy and strategy for nuclear fuel cycle and radioactive waste management.

Policy statement 4

The objective of this statement seeks to mobilise sustainable financing and funding, strengthen human and institutional capacity, research, technological development and local industrial participation in the nuclear energy programme.

Sustainable funding, procurement, human resource capacity, research and technological development and industrial involvement

The development of Kenya's nuclear energy programme needs substantial and sustained investment across the project lifecycle. Sustainable financing mechanisms, effective risk-sharing arrangements and partnerships with private investors and international financing institutions are necessary to ensure fiscal sustainability. In addition, sustainable implementation requires specialised human resource development, research and innovation, technological advancement and domestic industrial capacity.

However, the limited sustainable financing mechanisms, specialised nuclear procurement arrangements, skilled nuclear human resource, research infrastructure, technology development and local industrial capacity may increase reliance on external expertise and imported technologies, constrain programme implementation and expose the Government to financial and technical risks. Existing procurement arrangements will require strengthening to address nuclear-specific requirements Inadequate investment in knowledge management, specialised education and training, research and innovation, and industrial participation may further limit the development of national capabilities.

To mobilize sustainable financing and investment mechanisms to strengthen human resource capacity, research, technological development and local industrial participation in the nuclear energy programme, the Government will:

1. Develop and implement a national nuclear power funding and financing strategy covering the nuclear power programme.

2. Establish research reactors and associated facilities for workforce development, nuclear research, technical services, practical training, and innovation to reduce import dependence
3. Develop and implement a specialised procurement framework for nuclear power plants and associated facilities
4. Develop and implement a nuclear human resource development and knowledge management strategy.
5. Develop and implement an industrial involvement and localisation strategy to strengthen domestic industrial capacity and participation

Policy statement 5

This statement seeks to strengthen national, regional and international cooperation, stakeholder participation and public awareness.

National cooperation, stakeholder engagement, public awareness and participation

The development of Kenya's nuclear power programme requires effective cooperation among national, regional and international partners, and intentional engagement of stakeholders and the participation of the public. The insufficient cooperation mechanisms towards supporting the nuclear programme, stakeholder engagement and public awareness hinders the sustainable development of nuclear energy and undermines public confidence. Kenya therefore needs to strengthen cooperation mechanisms, stakeholder engagement, public education and participation to implement an effective nuclear programme, build trust, manage perceptions and ensure that the concerns of the stakeholders are addressed.

To strengthen cooperation, stakeholder engagement, public awareness and participation, the Government will:

1. Strengthen coordination and collaboration among national institutions and stakeholders involved in the nuclear power programme.
2. Establish and strengthen bilateral, regional, multilateral and international partnerships.
3. Promote public awareness, public participation and stakeholder engagement on nuclear energy.

CHAPTER 4: FRAMEWORK FOR POLICY IMPLEMENTATION

This section provides a coordination framework and administration mechanisms that specifies all institutions and their respective functions in the implementation of this National Nuclear Energy Policy (NNEP). The chapter highlights the institution, legal and regulatory mechanisms for successful implementation of the Policy. The section will also describe the funding arrangements to cater for the Policy activities and actions.

4.1 Coordination Framework and Administrative Mechanisms

The implementation of the NEP will adopt a coordinated, multi-sectoral approach, integrating efforts across government agencies, private sector stakeholders, development partners, civil society organisations and other key sector actors. MoE&P will provide leadership in coordinating operations and ensuring the effective implementation of the Policy objectives.

Table 2 presents an overview of the various institutions involved in the nuclear energy programme, detailing their roles and contributions toward achieving the Policy's goals and objectives.

Table 2: overview of the various institutions involved in the nuclear energy programme

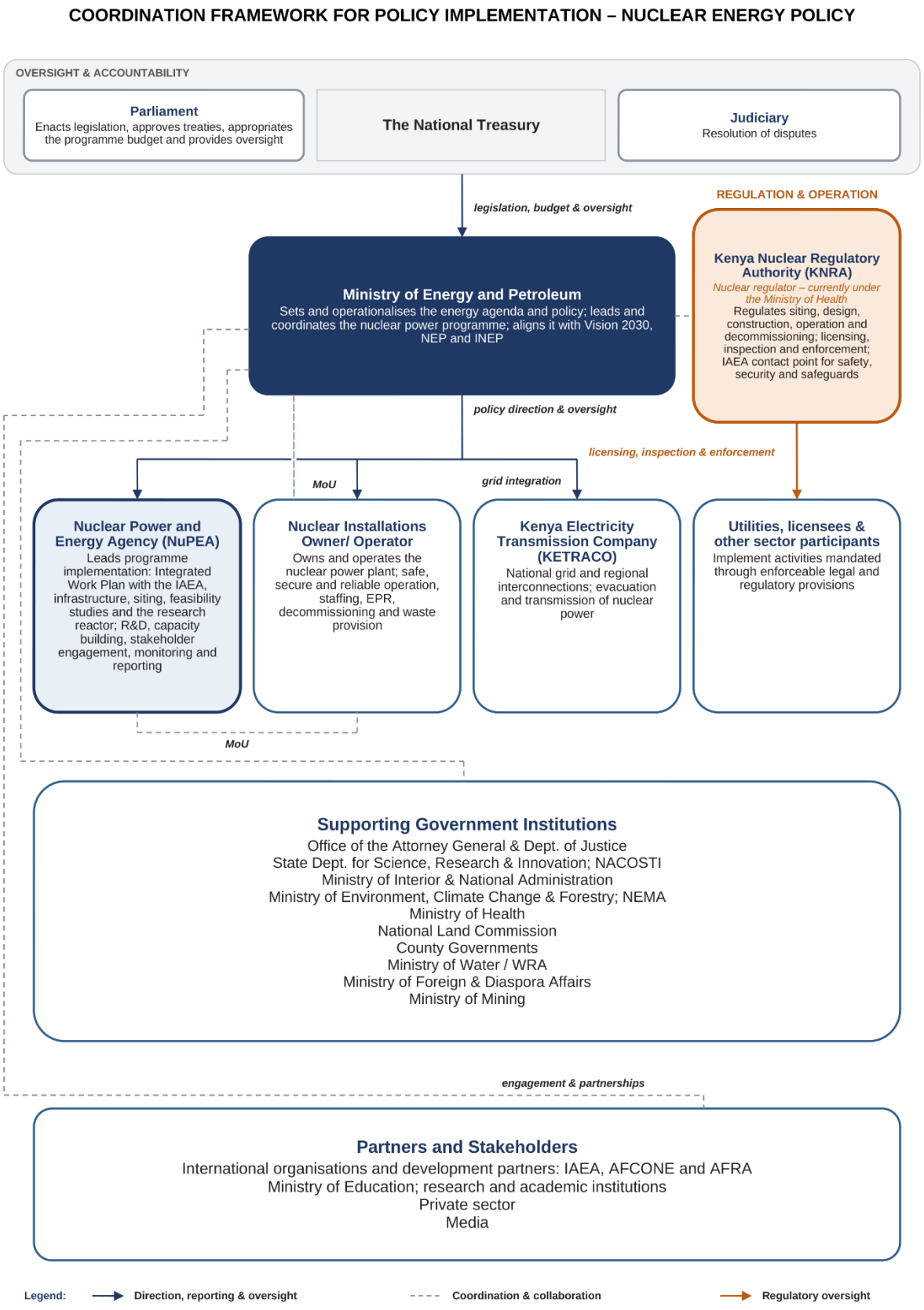
No.	Institutions	Function of Institution
1.	Ministry of Energy and Petroleum	Set, operationalize and oversee the national energy agenda and policy development; Provides overall oversight and coordination for the nuclear power programme; Ensure alignment of the nuclear energy programme with Vision 2030, National Energy Policy 2025-2034 and Integrated National Energy Plan (INEP); Mobilize resources for nuclear energy development;Oversight and coordination of capacity building to be implemented by the NEPIO; and Oversee national, regional and international nuclear cooperation.Exploration of nuclear fuel resources.i.e uranium and thorium.
2.	The National Treasury	The National Treasury shall provide overall fiscal policy guidance, coordinate budgeting, resource mobilization and financial oversight for the nuclear programme. It shall facilitate the allocation of public resources and the development of sustainable financing mechanisms, including public funding, concessional financing, public-private partnerships and blended finance, while ensuring alignment with national fiscal sustainability objectives and the Medium-Term Expenditure Framework (MTEF).

		In accordance with the Government Owned Enterprises Act, 2025, the National Treasury shall exercise the Government's ownership and shareholder oversight functions over relevant Government Owned Enterprises, including the Kenya Electricity Generating Company (KenGen). This shall include oversight of corporate governance, financial performance, performance contracting and associated fiscal risks, in coordination with the Ministry responsible for Energy, while safeguarding public investments in the nuclear energy sector.
3.	Nuclear Power and Energy Agency (NuPEA)	NuPEA will lead the implementation of the nuclear energy programme.; Lead national engagement with the IAEA including coordination of the Integrated Work Plan with the IAEA; Development of nuclear power infrastructure, site selection and characterization, feasibility studies, technology assessment, and implementation of the research reactor project. The Agency will also promote energy research and development, human resource capacity building, industrial participation, knowledge management, stakeholder engagement, public awareness, and monitoring and reporting on the implementation of this Policy.
4.	Kenya Nuclear Regulatory Authority (KNRA)	Independent nuclear regulator under the Nuclear Regulatory Act 2019; ensures safe, secure, and peaceful use of nuclear science and technology; regulates siting, design, construction, operation, decommissioning, and radioactive materials; issues licenses, conducts inspections and enforcement; protects persons, property, and the environment; serves as national point of contact for IAEA on safety, security, and safeguards.
5.	Nuclear Installations Owner/Operator	The owner-operator of a nuclear installation is responsible for the safe, secure, and reliable operation of the facility throughout its lifecycle. This includes compliance with regulatory requirements, maintaining qualified personnel and safety systems, implementing radiation and nuclear safety measures, emergency preparedness and response, security of nuclear and radioactive materials, and ensuring adequate resources for safe operation, decommissioning, and radioactive waste management. This includes KenGen who will be the designated owner-operator of Kenya's first nuclear power plant
6.	Kenya Electricity Transmission Company (KETRACO)	Plans, designs, constructs, operates, and maintains the high-voltage national grid and regional interconnections; evacuates and transmits nuclear-generated electricity.
7.	National Environment	Principal environmental regulator under EMCA; supervises and

	Management Authority (NEMA)	coordinates all environmental matters; issues EIA and SESA licenses required for nuclear facilities and the overall Nuclear Power Programme.
8.	Ministry of Environment, Climate Change and Forestry	Policy oversight for the environmental aspects of nuclear activities, including environmental impact assessment, protection of ecosystems, radioactive and hazardous waste management, and environmental monitoring. It works with nuclear regulators and other government agencies to ensure that nuclear projects comply with national environmental legislation and sustainability requirements.
9.	Office of the Attorney General and Department of Justice	Provide legal advice on nuclear legislation, contracts and international agreements and lead drafting of legislation for domestication of nuclear conventions
10.	Other Government Institutions and agencies	County Governments (local coordination, land-use, public participation); (security and public administration); Ministry of Water, Sanitation and Irrigation / Water Resources Authority (water use for cooling); Ministry of Mining (exercise regulatory administration over mining and prospective operations)
11.	Ministry of Education, research and academics	Undertake nuclear energy research, development and innovation and provide education, curriculum development, training and capacity building for the nuclear energy workforce.
12.	Ministry of Lands and National Land Commission	Provide policy and planning processes and ensures nuclear facility siting complies with land use plans, land ownership, registration requirements, and County involvement. NLC handles land acquisition, valuation, and the issuance of titles or administration of formal compensation related to land. Involvement in the resettlement action plan
13.	Ministry of Foreign and Diaspora Affairs	Lead negotiation of bilateral and multilateral nuclear cooperation agreements and coordinate accession to international nuclear conventions and treaties, together with the Office of the Attorney General.
14.	International organisations and development partners (including IAEA, AFCONE, AFRA)	Provide technical cooperation, peer reviews, guidance and capacity building and provide financial resources through grants, loans, guarantees and other financing instruments. Facilitate regional and international partnerships.
15.	Private sector	Mobilise capital and participate in financing of nuclear projects, including through PPPs.Supply goods, works and services that

		meet nuclear quality requirements and participate in localisation, technology transfer and innovation.
16.	Media	Disseminate accurate and timely information on the nuclear energy programme.
17.	Parliament	Enact legislation and approve international treaties relating to nuclear energy. Appropriate the budget for the nuclear programme and provide oversight.
18.	Judiciary	Resolution of disputes.
19.	Ministry of Interior and National Administration and security agencies	Support the nuclear security regime, including physical protection of nuclear facilities and material, and detection and response to material outside regulatory control at borders and entry points. Coordinate national disaster risk management, including nuclear and radiological emergency response, through the National Disaster Management Unit and the National Disaster Operations Centre.
20.	Utilities, Licensees and other participants in the nuclear sector	Responsible for implementing those activities that they are tasked with under this and other policies, as and when mandated through legal and regulatory provisions that are enforceable on them.

Figure 4: Coordination Framework for Policy Implementation



4.2 Legal and Regulatory Framework

The implementation of the nuclear energy policy will require a strong legal and regulatory framework to support the safe, secure, and peaceful utilisation of nuclear energy generation and energy research to support Kenya's socio-economic development. Implementation shall be guided by the Constitution of Kenya, 2010, relevant national legislation, policies and development plans, and applicable regional and international obligations. The Constitution provides the overarching legal foundation, particularly regarding fundamental rights, sustainable management of natural resources, environmental protection, devolution and prudent utilisation of public resources.

Key legislation includes the Energy Act, 2019; the Nuclear Regulatory Act, 2019; the Mining Act, 2016; the Environmental Management and Coordination Act; the Public Finance Management Act; the Public Procurement and Asset Disposal Act; and the Public Private Partnerships Act. Other relevant laws address science, technology and innovation, climate change, land use planning, data protection, access to information, disaster risk management, and treaty-making and ratification. These instruments support energy planning, nuclear regulation, environmental assessment, financing, procurement and institutional accountability. The Policy shall also align with the National Energy Policy 2025-2034, the Least Cost Power Development Plan 2024-2043 and Kenya Vision 2030, while supporting the United Nations 2030 Agenda for Sustainable Development, Africa's Agenda 2063 and the East African Community Vision 2050.

Kenya's relevant international commitments include the Statute of the International Atomic Energy Agency (IAEA), the Treaty on the Non-Proliferation of Nuclear Weapons, the Comprehensive Safeguards Agreement and Additional Protocol, the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, and the Comprehensive Nuclear-Test-Ban Treaty, subject to their respective legal status and applicability. These instruments support nuclear safeguards, security, non-proliferation and international cooperation. The Government shall undertake the necessary legislative and administrative measures to implement applicable obligations and consider accession to or ratification of relevant instruments on nuclear safety, radioactive waste management and civil liability for nuclear damage, as appropriate.

To support implementation, the Government shall review existing legislation and regulations to identify gaps or inconsistencies relating to nuclear power development, regulatory oversight, nuclear liability, radioactive waste and spent fuel management, decommissioning financing and institutional coordination. Where necessary, the Government shall develop legislative proposals, regulations and amendments to establish or strengthen institutional structures, powers, functions and enforcement

mechanisms, in accordance with the Constitution, applicable legislative procedures and Kenya's international obligations.

4.3 Funding arrangements

The required financial resources shall be mobilised from the Government, development partners, the private sector, international organisations and other funding agencies. Financing shall cover the entire lifecycle of nuclear facilities, including pre-project activities, infrastructure development, construction, operation, decommissioning, and spent fuel and radioactive waste management. The main funding sources shall include:

The main sources of funding will include:

1. **Government funding:** The National Treasury shall provide fiscal policy guidance, budgeting and resource allocation for the nuclear programme, including funding for relevant agencies, coordination of financing strategies and alignment of investments with national fiscal sustainability and the Medium-Term Expenditure Framework (MTEF).
2. **Development partners and multilateral financial institutions:** Concessional loans, grants, guarantees and other appropriate financing instruments.
3. **Public-Private Partnerships (PPPs) and private sector investment:** Private capital and partnerships for developing and financing nuclear energy infrastructure.
4. **International technical cooperation:** Resources and technical assistance from the International Atomic Energy Agency (IAEA) and bilateral partners.
5. **Climate finance and innovative financing mechanisms:** Appropriate climate-related funds and other financing instruments.
6. **National Research Fund (NRF):** Funding for nuclear energy research, development and innovation, including competitive research grants.
7. **Decommissioning Fund:** Contributions from licensees to support decommissioning and other obligations as provided for under the Nuclear Regulatory Act.
8. **National Infrastructure Fund:** Financing opportunities for infrastructure development through mechanisms provided for under the applicable legal and institutional framework.
9. **Research reactor revenues:** Income generated from research reactor products and services, where applicable.

The Ministry of Energy and Petroleum, in partnership with the National Treasury and Economic Planning, will develop and implement a national nuclear power funding and financing strategy, and

mechanisms for Government guarantees, risk-sharing and credit support, in line with the public finance management, public debt and fiscal risk frameworks.

CHAPTER 5: MONITORING AND EVALUATION

5.1 Overview

This Chapter establishes the framework for monitoring, evaluation, reporting and learning (MERL) to track implementation of the National Nuclear Energy Policy, assess progress towards its objectives and inform evidence-based decisions. It provides mechanisms for measuring results, identifying implementation challenges and supporting accountability and continuous improvement.

The Ministry responsible for Energy shall coordinate monitoring and evaluation (M&E) of this policy with technical support from the Nuclear Power and Energy Agency (NuPEA) and other relevant institutions, in accordance with their respective mandates.

1.2 Monitoring

Monitoring of this policy shall be undertaken through continuous data collection and analysis. The data shall be obtained from administrative records, institutional progress reports, regulatory reports, audits, surveys, stakeholder feedback, and relevant IAEA assessments.

Performance shall be measured using indicators with defined units, baselines, targets, data sources, reporting frequencies, and responsible institutions. Indicators shall cover nuclear energy integration, research and development, institutional and regulatory capacity, safety and security, financing, human resource development, local industry participation, and stakeholder engagement. Baselines and targets shall be validated by responsible institutions, aligned with national priorities and the Policy Implementation Plan, and reviewed through established governance arrangements. A comprehensive M&E matrix is contained in Annex 2

A centralised nuclear programme performance information system shall be maintained to support data consolidation and analysis. Data shall be securely stored, with access, retention and disclosure managed in accordance with applicable laws and requirements governing sensitive nuclear information.

Monitoring shall assess progress against the IAEA's Integrated Work Plan and the Milestones Approach; delivery of outputs across all policy objectives; compliance with nuclear safety, security, safeguards, radiation protection, and environmental requirements; resource utilisation, procurement performance, and risk mitigation; and public and stakeholder perceptions and acceptance.

5.2 Evaluation

The Ministry responsible for energy shall coordinate periodic evaluations to assess the policy's contribution to its intended outcomes. Evaluations shall assess progress towards the policy's goals and objectives, including nuclear safety culture, regulatory effectiveness, non-proliferation compliance, and contributions to national energy security and sustainable development.

Mid-term evaluation shall be undertaken after five years and an end-term evaluation towards the conclusion of the policy period to assess its relevance, effectiveness, coherence, impact, sustainability and achievement of intended outcomes. Ad hoc evaluations may be conducted where significant risks or implementation challenges arise. Evaluations shall follow defined criteria, methodologies and terms of reference, using qualitative and quantitative methods informed by monitoring reports, baseline data, financial records, regulatory assessments, audits, stakeholder consultations and technical studies.

They shall assess intended and unintended effects and, where possible, distinguish Policy outcomes from external influences. Independent experts and relevant oversight institutions may participate within their mandates, while IAEA peer-review findings may inform evaluations without replacing national evaluation or regulatory responsibilities. Evaluation reports shall present findings, recommendations and corrective actions to guide programme improvement, resource allocation, institutional strengthening and future policy planning.

5.3 Reporting

The Ministry responsible for energy shall coordinate policy-level reporting, while implementing institutions shall submit special reports in prescribed formats and within agreed timelines. Reporting of the policy implementation, monitoring and evaluation findings shall be done on a quarterly, annual, midterm and end-term basis. The objective will be to provide clear and concise information about the policy's progress, achievements and challenges. Reports will summarise key findings, emerging issues and recommendations. Findings shall be disseminated to relevant institutions and stakeholders, subject to applicable confidentiality, safety and security requirements. Dissemination to stakeholders will be carried out through appropriate channels, including circulars, websites, meetings, and publications.

5.3.1 *Learning*

The Ministry responsible for energy will embrace continuous learning as a core principle of the Policy implementation process, leveraging insights from monitoring and evaluation to refine policy design, execution, and outcomes. Emerging new knowledge during the interactive learning process

will be duly identified, curated, and preserved for posterity. This approach will cultivate a culture of innovation, safety, and continuous improvement, ensuring adaptability to emerging challenges and opportunities in nuclear energy programmes and regulation.

The policy implementers shall undertake periodic reviews of implementation experiences to identify key lessons and actionable insights to be incorporated in the subsequent planning and decision-making processes. Further, structured learning mechanisms shall be established, including periodic learning reviews, to assess and analyse findings arising from monitoring and evaluation activities. Finally, lessons learned, good practices, and evidence-based recommendations shall be documented and disseminated to relevant stakeholders. The dissemination mechanisms shall include high-level workshops, strategic technical presentations, and authoritative publications, with the aim of strengthening institutional learning, enhancing collaboration, and informing evidence-based policy and programme development.

CHAPTER 6: POLICY REVIEW

The National Nuclear Energy Policy shall be comprehensively reviewed every ten (10) years to take into account emerging technological, regulatory, economic, environmental, and international developments and to ensure continued alignment with national, regional and international developments and trends.

An interim or ad-hoc review may be initiated earlier where significant developments occur, including but not limited to:

a) Major changes in the national energy mix or demand projections.
b) Substantial revisions to international nuclear safety, security, safeguards, or liability conventions.
c) IAEA peer reviews or national evaluations that indicate the need for policy adjustment.
d) Significant safety, security, financing, or public acceptance events.
e) Constitutional, legislative, or institutional reforms affecting the nuclear sector.
f) Policy reviews may result in:
g) Revision of implementation priorities, targets, and timelines.
h) Adjustment of institutional roles and coordination arrangements.
i) Development or amendment of supporting regulations, standards, and guidelines.
j) Refinement of financing, human resource, localisation, or stakeholder engagement strategies.
k) Updating of risk management and emergency preparedness frameworks.

ANNEXES

1.3 Annex 1: Policy Implementation matrix

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
Objective 1: Integrate nuclear energy into the national energy mix to enhance energy security, reliability and diversification for socio-economic development.						
1.1 Develop and deploy nuclear power plants and associated facilities	Nuclear power plants and associated facilities developed	Percentage (%) of planned programme milestones achieved;	2026-2036	1.5 trillion	Gok and development partners	Government (state department of energy-KenGen)
		MW of nuclear power connected to the grid	2026-2036	20M	Gok and development partners	Government (state department of energy-KenGen)
1.2 Integrate the nuclear power programme into the national planning process	Nuclear power programme integrated into national plans	Nuclear power reflected in relevant national energy and infrastructure plans;	2026-2027	20M	GOK	State Department of Energy
Objective 2: Ensure the safe, secure and peaceful utilisation of nuclear energy in compliance with national and applicable international obligations and standards.						

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
2.1 Establish frameworks and programmes to strengthen leadership, management and organizational culture for nuclear safety and radiation protection.	Framework for leadership, management and organizational culture for nuclear safety developed and adopted	Leadership, management and organizational culture for nuclear safety framework	2027 - 2029	10M	GoK	State Department for Energy, KNRA, NuPEA, KenGen
		Evaluation criteria for nuclear safety	2028 - 2029	50M	GoK	State Department for Energy, KNRA NuPEA, KenGen
		No. of staff/ employees assessed on nuclear safety	Continuous	500M	GoK/ Development Partners	State Department for Energy, KNRA, NuPEA, KenGen
	Safety Culture policy developed	Safety culture policy	2027 - 2029	10M	GoK	State Department for Energy, KNRA, NuPEA, KenGen
	Radiation protection plan developed	Radiation protection plan	2027 - 2029	10M	GoK	State Department for Energy, KNRA, NuPEA, KenGen
2.2 Establish and maintain a national nuclear security regime	National Nuclear security and physical protection framework developed and implemented.	% implementation of the National Nuclear security and physical protection Framework	2027 - 2037	1.5T	GoK	State Department for Energy, KNRA, NuPEA, KenGen

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
2.3 Establish and maintain a national framework for the accounting for and control of nuclear material.	Framework for national nuclear accounting and control systems developed.	National Nuclear material accounting and control framework.	2027 - 2030	500M	GoK	State Department for Energy, KNRA, NuPEA, KenGen
	National nuclear material accounting and control systems operationalized	No. of reports on accounting and control of nuclear material.	2027 - 2037	3T	GoK	State Department for Energy, KNRA, NuPEA, KenGen
2.4 Develop and implement a nuclear and radiological emergency preparedness and response framework.	National Nuclear and radiological EPR framework developed and implemented	% implementation of the National Nuclear and radiological EPR framework	2027 - 2037	2T	GoK	State Department for Energy, KNRA, NuPEA, KenGen
2.5 Develop a nuclear liability and compensation framework	National Nuclear liability and compensation framework developed	National Nuclear liability and compensation framework developed	2027 - 2037	2T	GoK	State Department for Energy, KNRA, NuPEA, KenGen
Objective 3: Strengthen legal and regulatory frameworks necessary for effective coordination, oversight and sustainable implementation of the nuclear energy programme.						
3.1 Develop**,** review and strengthen the legal and regulatory framework in line with national legislation and	Comprehensive legal and regulatory framework developed	Number of legal and regulatory instruments developed	2027-2037	200 Million	GoK	MoE&P CS Health KNRA (lead) AG Parliament NEMA

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
applicable international obligations.						
		Number of nuclear treaties and conventions ratified	2027- 2037	20 million	GoK Development Partners	Parliament MoFA AG MoE&P
3.2 Strengthen the capacity and independence of the national nuclear regulatory body.	An independent regulatory body with strengthened institutional capacity	Number of personnel trained in technical areas	2027-2037	500 million	GoK Development Partners	Training Institutions KNRA
		Adequate budget/ regulatory funding secured	2027-2037	-	GoK	KNRA National Treasury
3.3 Develop and implement a national policy and strategy for nuclear fuel cycle and radioactive waste management.	National fuel cycle and radioactive waste management policy and strategy developed and implemented	Nuclear fuel cycle & a radioactive waste management policy and strategy	2027-2030	150 million	GoK	MoE&P NuPEA KNRA KenGen NEMA
		Framework for Long-term Disposal of Radioactive Waste	2036	20 million	GoK	MoE&P National Treasury

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
3.3 Develop and implement a national policy and strategy for nuclear fuel cycle and radioactive waste management.	Radioactive Waste Management Organisation established	A RWM organisation	2027-2037	1 billion	GoK	MoE&P National Treasury
Objective 4: To mobilise sustainable financing and funding, strengthen human and institutional capacity, research, technological development and local industrial participation in the nuclear energy programme.						
4.1 Enhance national nuclear power funding, financing and procurement mechanisms covering the nuclear power programme	National nuclear power funding and financing strategies developed	National nuclear power funding and financing strategy	2027-2028	100 million	GoK	National Treasury MoE&P
		Number of the Funding Commitments Executed for each phase	2027-2037	50 million	GOK	National Treasury MoE&P
	Nuclear Procurement guidelines developed	Nuclear Procurement guidelines	2027-2028	20 million	GOK	National Treasury MoE&P
	Decommissioning Fund operationalized	Regulations on decommissioning fund developed	2027-2028	200 million	GoK	National Treasury NuPEA MoE&P Kengen KNRA

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
4.2 Establish research reactors and associated facilities	Research reactors and associated facilities established	Percentage completion of research reactor	2027-2032	32.25 billion	GoK Development Partners	National Treasury NuPEA MoE&P Kengen Development Partners
4.3 Enhance nuclear human and institution capacity development	Nuclear human resource development strategy developed and implemented	Percentage of planned HRD strategy actions implemented.	2027-2028	50 Million	GOK	NuPEA KenGen KNRA
		Percentage of identified critical nuclear programme positions filled	2027-2037	10 million	GOK	NuPEA KenGen KNRA
		Number of functional HRD initiatives and partnerships	2027-2037	100 million100 million	GOK Development partners	NuPEA KenGen KNRA
	Integrated Management System Developed and implemented	Percentage of IMS processes implementation (IAEA GSR Part 2)	2027-2037			

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
	Nuclear Knowledge management framework developed and implemented	Percentage of critical nuclear knowledge assets preserved	2027-2037			
		No. of planned knowledge-sharing and transfer initiatives	2027-2037			
		Percentage of identified nuclear knowledge and competency gaps addressed	2027-2037			
4.4 Promote localization in the nuclear power programme	Localization strategy developed	Percentage of identified localization opportunities incorporated into the national nuclear power programme implementation plan	2027-2028	50 million	GOK	NuPEA KenGen
		Percentage of targeted local industries assessed and supported to meet nuclear industry supply-chain requirements and quality standards				

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
	Industrial involvement strategy developed and implemented	percentage involvement of local industries in the nuclear power programme	2027-2037	10 million	GOK	NuPEA KenGen
Objective 5: Strengthen national, regional and international cooperation, stakeholder participation and public awareness						
5.1 Strengthen coordination and collaboration among national institutions involved in the nuclear power programme.	Coordination and collaboration mechanism strengthened	Number of collaboration and coordination agreements/MoUs signed	2027-2037	KES 100M	GoK	MoE&P (Lead) NuPEA(NEPIO); KenGen; KNRA; National Treasury; NEMA; KETRACO; EPRA; Council of Governors; Host county governments; IGRTC
		Number of joint coordination activities implemented on schedule ;	2027-2037	KES 300M	GoK	MoE&P (Lead) NuPEA(NEPIO); KenGen; KNRA; National Treasury; NEMA; KETRACO; EPRA; Council of Governors; Host

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
						county governments; IGRTC
5.2 Establish and strengthen bilateral, regional, multilateral and international partnerships.	IAEA cooperation programme implemented	No. of IAEA missions completed No. of technical cooperation activities/projects supported	2027/28–2030/31	KES 150 M	GoK and development partners	NuPEA (Lead); MoEP;
	Regional, Bilateral and multilateral cooperation programmes implemented	No. of joint activities	2027-2037	KES 800 M	GoK; Bilateral & Multilateral partners	MoEP (Lead); NuPEA; Ministry of Foreign Affairs
	Regional agreements and frameworks signed	Number of regional agreements/frameworks on nuclear energy development implemented	Annually	KES 20M	GoK; development partners	MoEP (Lead); Eastern Africa Power Pool (EAPP)
5.4 Promote public awareness, public	A national nuclear energy stakeholder engagement and public communication	% implementation of the Strategy	2027-2037	8500 million	GoK	MoE&P (Lead) NuPEA Kengen CoG

1.4						
Strategies	**Expected Output**	**Key Performance Indicators**	**Time Frame**	**Estimate Cost (Ksh million)**	**Funding Sources**	**Responsibility Lead/Support**
participation and stakeholder engagement on nuclear energy	strategy developed and implemented					KNRA

1.5 Annex 2: Policy Monitoring Matrix

Objective	**Outcome (s)**	**Indicators**	**Baseline**	**Target(s)**		**Source of data**	**Frequency**
				Mid Term	**End Term**		
Goal	**To provide a framework for the safe, secure and peaceful development and utilisation of nuclear energy and research, in support of Kenya's energy security, sustainable development and socio-economic transformation.**						
Integrate nuclear energy into the national energy mix to enhance energy security, reliability and diversification for socio-economic development.	Enhanced national energy security and reliability	Nuclear installed capacity connected to the national grid (MW).	0	0	2,000	EPRA	After 10 Years

Objective	**Outcome (s)**	**Indicators**	**Baseline**	**Target(s)**		**Source of data**	**Frequency**
				Mid Term	**End Term**		
Ensure the safe, secure and peaceful utilisation of nuclear energy in compliance with national and applicable international obligations and standards.	Enhanced nuclear safety, security, and safeguards	Percentage compliance with national and international safety, security and safeguards requirements	100	100	100	KNRA	Annually
Strengthen legal and regulatory frameworks necessary for effective coordination, oversight and sustainable implementation of the nuclear energy programme	Legal and regulatory framework strengthened	Percentage of required nuclear energy laws, regulations and policies developed/reviewed	40%	60%	100%	NLRC; KIPPRA	Annually
Mobilise sustainable financing and funding strengthen human and institutional capacity, research, technological development and local	Sustainable and reliable financing and funding mechanisms	Total financial resources mobilized for the nuclear energy programme (KES)	10 billion	50 billion	1.3 trillion	National Treasury and MOE&P	Annually

Objective	**Outcome (s)**	**Indicators**	**Baseline**	**Target(s)**		**Source of data**	**Frequency**
				Mid Term	**End Term**		
industrial participation in the nuclear energy programme.		Amount accumulated in funds for decommissioning, spent fuel and radioactive waste management (KES)	0	125 million	500 million	National Treasury MoE&P	Annually
	Enhanced human and institutional capacity	Number of qualified nuclear professionals developed/trained	225	700	1200	KNRA NUPEA	Annually
		Level of institutional capacity	20%	80%	100%	MoE&P; KNRA	Annually
	Enhanced nuclear Research and innovation capabilities	Percentage of targeted nuclear utilization capabilities and innovations implemented	2%	30%	100%	NuPEA	Annually
	Participation of local industries and expertise in the nuclear power programme	Number of local industries qualified/certified to provide nuclear-related goods and services	0	10	50	NuPEA MIT	Annually

Objective	**Outcome (s)**	**Indicators**	**Baseline**	**Target(s)**		**Source of data**	**Frequency**
				Mid Term	**End Term**		
		Proportion of local experts involved in the nuclear power programme	3%	30%	80%	NuPEA MoE&P KenGen	Annually
Strengthen national, regional and international cooperation, stakeholder participation and public awareness	Enhanced national, regional, and international partnerships, collaboration, and knowledge exchange	Percentage of cooperation agreements/MOUs implemented	30%	60%	80%	AG MoFA	Annually
	Enhanced stakeholder engagement	Percentage of stakeholders actively participate in nuclear energy consultations and engagement activities.	20%	60%	100%	NuPEA, Kengen MoE NUPEA	Annually
		Percentage of the target population demonstrated adequate knowledge and understanding of nuclear energy	10%	60%	90%	Kengen MoE NUPEA	Annually