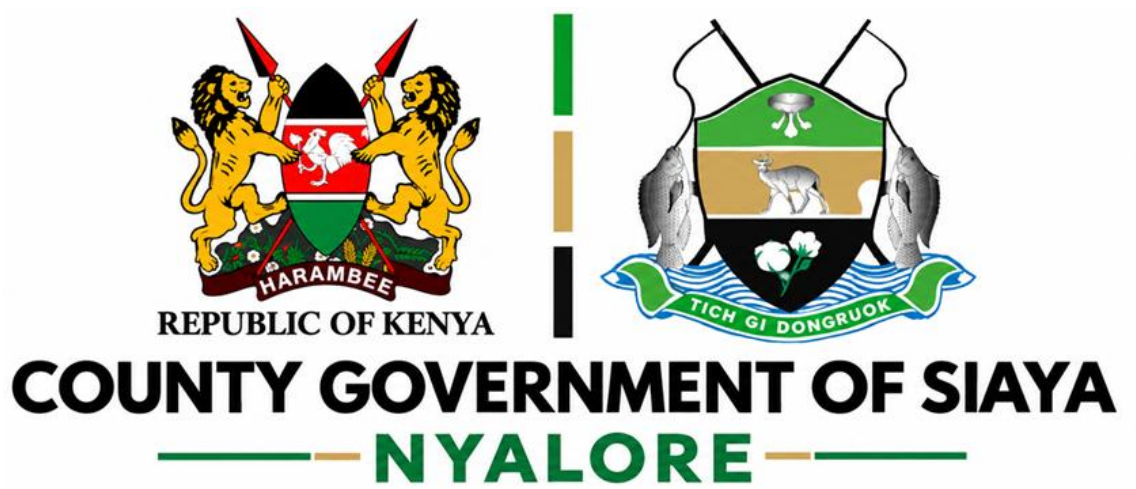




SIAYA COUNTY ENERGY POLICY

2026 – 2035

FOREWORD

The Siaya County Energy Policy represents a landmark commitment by the County Government to advance sustainable energy development under the devolved governance framework. Energy is the backbone of socio-economic transformation, and this Policy provides a strategic pathway for delivering modern, reliable, and climate-resilient energy services to our people.

Through this Policy, the County Government reaffirms its dedication to expanding electricity access, promoting clean cooking, accelerating renewable energy deployment, and enhancing energy efficiency. It also underscores our resolve to ensure that women, youth, persons with disabilities, and vulnerable groups are not left behind in the energy transition.

The successful realization of this Policy will require strong partnerships between the County Government, national institutions, private sector actors, civil society organizations, development partners, and local communities. Together, we can build an energy sector that drives inclusive growth, protects our environment, and secures a prosperous future for Siaya.

I commend all stakeholders whose contributions have enriched this Policy. Their commitment and expertise have ensured that this document reflects both the aspirations of our people and the priorities of sustainable development.

.....

Governor
County Government of Siaya

PREFACE

The Siaya County Energy Policy has been developed to provide a structured framework for the coordinated growth and management of the County’s energy sector. It operationalizes the County’s energy mandate under the devolved governance system and offers practical guidance for implementing sustainable, inclusive, and climate-resilient energy interventions.

This Policy is informed by extensive stakeholder consultations, findings from the Siaya County Energy Plan (2026–2035), national policy frameworks, and emerging sectoral priorities. It highlights the critical role of energy in socio-economic development and identifies strategic interventions to expand electricity access, promote clean cooking, strengthen renewable energy development, enhance energy efficiency, and support productive uses of energy.

In addition, the Policy outlines mechanisms for institutional coordination, investment mobilization, stakeholder participation, and integration of energy considerations into county planning and development processes. Special emphasis is placed on equitable access to modern energy services, environmental sustainability, climate resilience, and the inclusion of marginalized groups.

The effective implementation of this Policy will depend on collaboration among the County Government, national institutions, private sector actors, civil society organizations, development partners, and local communities. The County Government remains committed to strengthening coordination mechanisms and fostering an enabling environment for investment and innovation.

We acknowledge with gratitude the contributions of all stakeholders who provided their time, expertise, and resources during the development of this Policy. Their input has greatly enhanced the quality, relevance, and robustness of this document.

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County Executive Committee Member (CECM)

Department of Roads, Public Works, Transport and Energy

County Government of Siaya

ACKNOWLEDGEMENTS

The development of the Siaya County Energy Policy has been a highly consultative and collaborative process, enriched by contributions from a broad spectrum of stakeholders at both county and national levels.

The County Government of Siaya extends its sincere gratitude to all institutions, organizations, and individuals who participated in the preparation of this Policy through technical input, stakeholder consultations, review meetings, and validation workshops.

Special appreciation is accorded to the County Executive Committee Member and the Chief Officer for the Department of Roads, Public Works, Transport and Energy for their leadership, guidance, and steadfast support throughout the policy development process.

The County further acknowledges the invaluable collaboration of national energy institutions, including the Ministry of Energy and Petroleum, the Energy and Petroleum Regulatory Authority (EPRA), Kenya Power and the Rural Electrification and Renewable Energy Corporation (REREC).

We also recognize the significant contributions of county departments, members of the County Energy Technical Working Group (TWG), private sector actors, civil society organizations and community representatives who actively engaged in the formulation of this Policy.

Special recognition is extended to UK PACT, through Practical Action and its project partners, for their technical and financial support during the development of this Policy.

Finally, the County Government appreciates the efforts of the consulting team led by Emmanuel Cyoy, Emma Nyabicha (Policy Lead), Mbinya Mutiso, and Valeria Ontoya, whose facilitation and technical expertise were instrumental in drafting this Policy.

It is our firm hope that this Policy will serve as a strong foundation for sustainable energy development and improved livelihoods across Siaya County.

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ABBREVIATIONS AND ACRONYMS

Abbreviation/Acrony m	Full Meaning
ADP	Annual Development Plan
AGPO	Access to Government Procurement Opportunities
AREI	African Renewable Energy Initiative
CECM	County Executive Committee Member
CEP	County Energy Plan
CEPC	County Energy Planning Committee
CIDP	County Integrated Development Plan
CIF	Climate Investment Funds
CIMES	County Integrated Monitoring and Evaluation System
ECDE	Early Childhood Development Education
EE&C	Energy Efficiency and Conservation
EMIS	Energy Management Information System
EMR 2025	Energy (Energy Management) Regulations, 2025
EPRA	Energy and Petroleum Regulatory Authority
ESCOs	Energy Service Companies
ESIA	Environmental and Social Impact Assessment
EV	Electric Vehicle
FiT	Feed-in Tariff
FLLOCA	Financing Locally-Led Climate Action Programme
GCF	Green Climate Fund
GEDSI	Gender Equality, Disability and Social Inclusion
GEF	Global Environment Facility
GIS	Geographic Information System
ICT	Information and Communication Technology
INEP	Integrated National Energy Planning
KEBS	Kenya Bureau of Standards
KEMP	Kenya Electricity Modernization Project
KenGen	Kenya Electricity Generating Company
KETRACO	Kenya Electricity Transmission Company
KFS	Kenya Forest Service
KNCTS	Kenya National Cooking Transition Strategy
KNeCS	Kenya National eCooking Strategy
KPLC	Kenya Power and Lighting Company (Kenya Power)
KSh	Kenya Shilling
LED	Light Emitting Diode
LPG	Liquefied Petroleum Gas
M&E	Monitoring and Evaluation

MEPS	Minimum Energy Performance Standards
MSMEs	Micro, Small and Medium Enterprises
NEMA	National Environment Management Authority
NuPEA	Nuclear Power and Energy Agency
OPDs	Organizations of Persons with Disabilities
PAYGO	Pay-As-You-Go
PPP	Public-Private Partnership
PUE	Productive Use of Energy
PURE	Productive Uses of Renewable Energy
PV	Photovoltaic
PWDs	Persons with Disabilities
RE	Renewable Energy
REREC	Rural Electrification and Renewable Energy Corporation
SACCOs	Savings and Credit Co-operative Societies
SDG	Sustainable Development Goal
SWH	Solar Water Heating
TVET	Technical and Vocational Education and Training
TWG	Technical Working Group
WtE	Waste-to-Energy

CHAPTER ONE: INTRODUCTION

This Chapter highlights the basis for Siaya County's Energy Policy 2026 – 2035. It outlines the Policy structure, background information and guiding principles. It sets out policy objectives, provides the scope, identifies key policy issues and justifies the need for government intervention.

1.1. Background

Energy is a fundamental driver of socio-economic development and a critical enabler of service delivery, economic productivity, environmental sustainability and improved quality of life. Access to affordable, reliable and clean energy supports key sectors including agriculture, health, education, trade and industry, while also contributing to poverty reduction and climate resilience. Despite global progress in expanding energy access, many rural and peri-urban communities in developing regions continue to face significant energy deficits characterized by limited electricity access and heavy dependence on traditional biomass fuels.

Globally, the importance of universal access to modern energy services has been recognized through international commitments such as Sustainable Development Goal 7 (SDG 7), which seeks to ensure access to affordable, reliable, sustainable and modern energy for all by 2030. Best practices emerging from countries that have accelerated energy access highlight the importance of integrated energy planning, deployment of decentralized renewable energy technologies, strong institutional frameworks and policies that promote clean cooking transitions. Decentralized renewable energy systems such as mini-grids, solar home systems and stand-alone renewable technologies have played a particularly important role in expanding electricity access in rural and remote areas where grid extension is costly or technically challenging. Similarly, countries that have successfully advanced clean cooking transitions have done so through coordinated policies supporting alternative fuels, sustainable biomass management and public awareness programmes.

At the regional level, African countries have increasingly prioritized energy access and clean energy transitions as key development priorities. Initiatives such as the African Union's Agenda 2063, the African Renewable Energy Initiative (AREI) and regional electrification programmes have emphasized the expansion of renewable energy deployment, promotion of energy efficiency and strengthening of energy sector governance. Many countries across the continent have adopted policies that promote decentralized renewable energy solutions to address rural electrification gaps while supporting economic transformation through productive uses of energy in agriculture, fisheries and micro-enterprises.

Kenya has made significant progress in expanding electricity access over the past decade through a combination of grid expansion, last-mile connectivity initiatives and off-grid renewable energy deployment. National electrification programmes implemented by institutions such as the Rural Electrification and Renewable Energy Corporation have contributed to substantial increases in household connectivity and electrification of public institutions including schools and health facilities. Kenya has also adopted a range of policy and regulatory instruments aimed at

strengthening the energy sector, including the Energy Act, 2019, the National Energy Policy 2025–2034, the Kenya National Cooking Transition Strategy (KNCTS) 2024–2028, the Kenya National eCooking Strategy (KNeCS) and frameworks supporting renewable energy development, energy efficiency and electric mobility.

The Constitution of Kenya (2010) introduced a devolved governance structure that assigns specific energy-related functions to county governments. Under Part 2 of the Fourth Schedule, county governments are responsible for county planning and development, including electricity and gas reticulation and energy regulation. The Energy Act further provides a legal framework for coordinated energy planning across national and county governments, including the preparation of County Energy Plans as part of the Integrated National Energy Planning framework, operationalized through the Energy (Integrated National Energy Plan) Regulations, 2025.

Despite these national efforts, significant disparities in energy access persist across counties, particularly in rural areas. Many counties continue to face structural challenges including limited electricity connectivity in remote settlements, high reliance on traditional biomass fuels for cooking, weak integration of energy into productive economic sectors and limited institutional capacity to coordinate energy planning and investments. These challenges are often compounded by fragmented financing mechanisms, limited data availability and insufficient coordination among sector stakeholders.

The CEP baseline findings indicate that access to modern energy services in Siaya County remains limited, with only 37.6 per cent of households connected to grid electricity (including mini-grids), up from 27 per cent in 2025. Most households lack power, and many schools, health facilities, and water supply systems continue to operate with insufficient energy provision. In the clean cooking sector, reliance on solid biomass fuels remains predominant. About 94 per cent of households use biomass, with 80 per cent depending on firewood and 14 per cent on charcoal as their primary fuel. Three-stone open fires are the dominant cooking technology, employed by 73 per cent of all households and 96.7 per cent of rural households. This reliance on biomass is associated with negative health outcomes, environmental degradation, and reduced productivity, with disproportionate impacts on women and children. Additionally, there is limited integration of energy into productive sectors such as agriculture, fisheries and small enterprises which constrains the county's ability to leverage energy as a driver of economic transformation.

However, Siaya County also possesses untapped renewable energy potential, including solar, small hydropower, wind and bioenergy resources. The County has also been identified as a prospective host for Kenya's nuclear power programme. Harnessing these resources offers an opportunity to diversify the energy mix, expand productive uses of energy in agriculture and enterprises, stimulate investment, and strengthen climate resilience.

Previous government interventions in Siaya County have primarily concentrated on national electrification programmes, the electrification of public facilities, and selected decentralized renewable energy installations within public institutions. Development partners and private sector actors have also undertaken energy-related initiatives, including solar installations, clean cooking

programmes, and community-level renewable energy solutions. These interventions, however, have largely been implemented in a project-driven manner, with limited alignment to a comprehensive county energy planning framework. Strengthening integration into county-level planning is necessary to ensure coherence, sustainability, and scalability of future energy sector interventions.

While the CEP outlines the technical and investment roadmap for energy development, there remains a need for a clear and comprehensive policy framework to guide governance, coordination, regulation within devolved mandates, resource mobilization, and accountability. The Siaya County Energy Policy addresses this need by providing a coherent framework for energy sector development within the county. The policy seeks to strengthen institutional coordination, promote inclusive access to modern energy services, accelerate the transition to clean cooking solutions, support productive uses of renewable energy, and enhance energy efficiency. By aligning county priorities with national policy frameworks and global energy transition objectives, the Policy establishes a strategic pathway for leveraging energy as a driver of sustainable development, improved livelihoods, and climate resilience in Siaya County.

1.2. Role of Energy in County Development

Energy is a fundamental pillar of sustainable county development and a critical enabler across economic, social, and environmental sectors. Access to reliable, affordable, and clean energy directly influences the delivery of essential services including healthcare, education, water supply, and transportation infrastructure while also driving economic growth through enhanced agricultural productivity, cottage industries, and small-scale manufacturing.

In Siaya County, energy access is particularly significant for bridging the rural–urban development gap. Improved electrification supports education and healthcare facilities, strengthens agro-processing value chains, and creates opportunities for entrepreneurship and job creation. However, the county’s ability to advance comprehensive energy sector development has been constrained by the incomplete operationalization of energy as a devolved function under the Constitution of Kenya (2010). This has resulted in unclear institutional frameworks, limited local capacity, and insufficient coordination between national and county governments, thereby hindering the development of targeted interventions, attraction of sector-specific investments, and implementation of context-appropriate solutions.

Siaya County continues to face significant energy access challenges across households, public services, and productive sectors. Addressing these gaps is essential to expanding modern energy access, accelerating renewable energy uptake for productive uses, and improving energy efficiency to support sustainable socio-economic development.

Sustainable energy solutions also contribute to environmental conservation, reduce greenhouse gas emissions, and strengthen climate resilience. Diversifying energy options enhances

competitiveness, attracts investment, and improves residents' quality of life. Energy planning is therefore a core component of the county's comprehensive development strategy.

1.3. Rationale for Government Action

Energy is a foundational enabler of socio-economic development, public service delivery, environmental sustainability, and climate resilience. In Siaya County, the energy landscape is characterized by structural access gaps, heavy reliance on traditional biomass fuels, limited integration of energy into productive sectors, and fragmented institutional coordination. At the same time, ecosystems face increasing pressure from unsustainable biomass use and climate variability, underscoring the need to transition to cleaner and more efficient energy systems. These challenges cannot be addressed solely through market forces or isolated project interventions.

Government action is required to provide strategic direction, strengthen institutional frameworks, correct coordination and information gaps, promote equitable access, and facilitate investment in priority energy interventions. Under the Fourth Schedule to the Constitution of Kenya (2010) and relevant national energy legislation, the County Government is mandated to plan and support energy development within its jurisdiction.

A structured County Energy Policy is therefore necessary to guide planning, align sector investments, mainstream cross-cutting considerations, and ensure that energy development contributes to inclusive economic growth and improved quality of life. Without clear policy direction, coordinated interventions, and structured resource mobilization, progress toward universal access to electricity by 2030 and to clean cooking by 2028 risks remaining slow, fragmented, and inequitable.

1.4. Policy Goal and Objectives

The goal of this Policy is to establish a coherent, inclusive and sustainable energy framework that enhances access to reliable and affordable electricity, accelerates the transition to clean cooking, promotes productive uses of renewable energy, strengthens institutional governance and contributes to socio-economic transformation, environmental sustainability and climate resilience in Siaya County.

The specific objectives of the policy are to:

1. strengthen governance, institutional and coordination frameworks for effective energy sector management within the County.
2. facilitate inclusive and affordable access to electricity within the County mandate.
3. promote transition to clean, efficient and sustainable cooking solutions.
4. enhance the productive uses of renewable energy across key economic sectors.
5. promote energy efficiency and conservation across public and private sectors.
6. strengthen energy financing and resource mobilization mechanisms.

7. institutionalize energy data management, monitoring and reporting systems.
8. mainstream gender, disability and social inclusion in energy planning and implementation.
9. integrate environmental sustainability, public health and climate change considerations into energy development.
10. promote research, innovation and capacity development in renewable energy and clean technologies.

1.5. Guiding Principles

The development and implementation of the Siaya County Energy Policy shall be guided by the following principles:

1. **Sustainability:** Energy planning and investments within the county shall promote environmentally sustainable solutions that support long-term resource conservation, climate resilience and responsible management of natural resources. The Policy prioritizes clean and renewable energy technologies that reduce environmental degradation while meeting the energy needs of current and future generations.
2. **Equity and Inclusiveness:** Energy interventions shall be designed to ensure equitable access to modern and reliable energy services for all residents of the county, including rural communities, marginalized groups, women, youth and persons with disabilities. Special attention shall be given to addressing disparities in energy access and ensuring that vulnerable populations benefit from energy development initiatives.
3. **Affordability and Accessibility:** Energy solutions promoted under this policy shall seek to improve affordability and accessibility of modern energy services for households, public institutions and enterprises. Efforts will be made to support cost-effective technologies, innovative financing mechanisms and delivery models that enable wider adoption of clean and reliable energy.
4. **Coordination and Partnership:** The County Government shall promote strong coordination among county departments, national government institutions, development partners, private sector actors and community organizations involved in energy-related initiatives. Effective partnerships and collaboration will be essential for mobilizing resources, aligning interventions and maximizing impact.
5. **Evidence-Based Planning:** Energy planning and decision-making shall be informed by reliable data, research and continuous monitoring of the sector's performance. The County Government will promote the development of energy data systems to support evidence-based policy formulation, planning and implementation.
6. **Innovation and Adaptability:** The Policy encourages innovation, adoption of emerging technologies and flexible approaches that allow the county to respond to evolving energy needs, technological advancements and climate-related risks. The County Government will support pilot initiatives, learning and adaptive policy implementation.

7. **Public Participation and Transparency:** The County Government shall ensure meaningful public participation in the planning, implementation and review of energy policies, plans and projects, in line with Articles 10, 174 and 196 of the Constitution of Kenya, 2010, and shall publish information on energy investments and performance to promote accountability.
8. **Cooperative Governance and Subsidiarity:** Energy functions shall be performed at the level of government best placed to deliver them, with the County Government and national institutions conducting their relations on the basis of consultation and cooperation, as required by Article 6(2) of the Constitution of Kenya, 2010 and the Intergovernmental Relations Act, 2012.

1.6. Scope of the Policy

This Policy establishes the strategic framework for planning, development, coordination, and promotion of the energy sector in Siaya County, consistent with the County Government's constitutional and statutory mandate. It applies to all energy-related activities within the County and serves as the guiding reference for decision-making, investment, implementation, and stakeholder coordination in the energy sector.

Specifically, the Policy covers the following areas:

- i. **Electricity Access and Local Reticulation:** Promotion and facilitation of electricity access, decentralized energy solutions, mini-grids, and last-mile connectivity within the County.
- ii. **Clean Cooking and Bioenergy:** Promotion of clean cooking solutions, sustainable biomass value chains, and transition from traditional fuels in households, institutions, and enterprises.
- iii. **Renewable Energy Development:** Facilitation of development and utilization of locally available renewable energy resources, including solar, wind, small hydropower, bioenergy and waste-to-energy.
- iv. **Energy Efficiency and Conservation:** Promotion of energy efficiency measures across households, public facilities, commercial establishments, and productive sectors, together with preparation for electric mobility.
- v. **Productive Use of Energy (PUE):** Integration of energy solutions to enhance agriculture, livestock value chains, MSMEs, water systems, and local economic development.
- vi. **Institutional Coordination and Governance:** Establishment of clear county-level coordination mechanisms and alignment with national agencies in accordance with the Energy Act, 2019.
- vii. **Financing, Investment Facilitation, and Partnerships:** Promotion of an enabling environment for public-private partnerships, climate finance, results-based financing, and other innovative funding mechanisms.
- viii. **Cross-Cutting Issues:** Mainstreaming of gender, disability and social inclusion, environmental sustainability, public health and climate change considerations, energy data management, and research, innovation and capacity development across all thematic areas.

This Policy does not supersede national regulatory, licensing, or generation mandates vested in national institutions under the Energy Act, 2019. Instead, it complements national frameworks by operationalizing county-level responsibilities and strengthening local implementation capacity.

It provides strategic guidance for energy sector development within Siaya County over the Policy period (2026–2035) and will be implemented in alignment with the County Integrated Development Plan (CIDP), the County Energy Plan (CEP), and relevant national policies and strategies.

1.7. Structure of the Policy Document

The Policy is structured into five chapters and an annex:

- i. Chapter 1: Introduces the policy framework and context.
- ii. Chapter 2: Presents a situational analysis detailing the present status, challenges, and opportunities within the energy sector.
- iii. Chapter 3: Sets out the Policy Objectives, Policy Statements and Policy Strategies through which the Policy will be implemented.
- iv. Chapter 4: Sets out the implementation framework, including coordination mechanisms, institutional roles and responsibilities and the proposed organogram of the County Energy Directorate, and the costed Implementation Plan presented in the Annex.
- v. Chapter 5: Provides the monitoring, evaluation, learning and reporting framework for accountability towards achieving the policy goal.

CHAPTER TWO: SITUATION ANALYSIS

2.1. Overview

This Chapter provides an overview of the current energy landscape in Siaya County and examines the key structural, institutional and sectoral dynamics shaping energy development. It assesses the status of electricity access, decentralized renewable energy, clean cooking, productive uses of energy and energy efficiency. The Chapter further analyses governance, financing, data management and cross-cutting considerations including gender, environment and climate change. It identifies critical policy gaps and existing opportunities that can be leveraged to strengthen the energy sector. The findings presented in this Chapter form the basis for the policy interventions outlined in subsequent sections.

Energy plays a critical role in supporting the county's socio-economic development, particularly in livestock production, agriculture, trade, water services, health, and education. While progress has been made in expanding electricity access through grid connections and decentralized renewable energy systems, disparities remain across different parts of the county. According to the CEP, approximately 37 per cent of households are connected to the national grid, while others rely on solar home systems, portable solar lighting, or other alternative energy sources.

The cooking energy landscape continues to be dominated by traditional biomass fuels. About 80 per cent of households rely primarily on firewood for cooking, while 14 per cent rely on charcoal and 6 per cent on LPG. Three-stone open fires remain the dominant cooking technology for 73.0 per cent of all households and for 96.7 per cent of rural households. The continued use of inefficient cooking technologies contributes to environmental degradation, health risks associated with household air pollution, and unsustainable biomass harvesting.

At the same time, Siaya County possesses significant renewable energy potential, particularly in solar, rivers for small hydropower generation, wind, and bioenergy resources, which present opportunities to diversify the county's energy mix and support the transition to cleaner energy solutions. Energy also plays a critical role in enabling productive uses such as water pumping, agro-processing, fisheries and enterprise development.

Despite these opportunities, the sector faces several challenges including infrastructure gaps, limited financing, institutional coordination issues, and environmental pressures associated with unsustainable biomass use. Addressing these challenges is essential for accelerating the transition to reliable, affordable, and sustainable energy services across the county.

2.2. Electricity Access

Access to electricity that is reliable and affordable underpins improvements in health outcomes, educational attainment, agricultural productivity, water supply, enterprise development, and quality of life. Siaya County has made measurable but uneven progress towards universal electricity access. As of February 2026, 37.6 per cent of the county's households were connected to grid electricity, up from 27 per cent in 2025. Despite this progress, nearly two-thirds of households (about 167,000) remain unconnected, with access gaps particularly acute in rural sub-locations across the county.

Policy Gaps and Challenges

- i. Absence of a structured county framework for systematic identification and prioritization of underserved and unserved areas to guide electricity access interventions.
- ii. Limited integration of electricity access planning into county sector plans and infrastructure development programmes.
- iii. Inadequate county-level mechanisms to facilitate last-mile connectivity and decentralized electricity solutions in off-grid and remote areas.
- iv. Limited structured engagement with national electrification programmes to align rollout priorities with county-identified needs.
- v. High cost of grid extension due to dispersed settlement patterns and large geographic distances.
- vi. Affordability barriers related to connection costs, electricity tariffs, and appliance costs.
- vii. Reliability challenges in some areas leading institutions to depend on diesel backup systems.
- viii. Limited use of electricity for productive activities such as agro-processing and cold storage.

Opportunities

- i. Ongoing national electrification and last-mile connectivity programmes implemented within the County.
- ii. Availability of decentralized renewable energy technologies, which provide viable solutions for off-grid and remote settlements.
- iii. Expansion of decentralized renewable energy systems including solar home systems and mini-grids in rural areas and isolated islands.
- iv. Grid extension programmes targeting rural towns, community facilities, and trading centres.
- v. Solarization of public infrastructure including schools, health facilities, and water systems.
- vi. Growing electricity demand driven by urbanization in towns such as Siaya, Bondo and Ukwala.
- vii. Increasing potential for electricity-driven productive uses in agriculture, livestock, and fisheries value chains, and MSMEs.
- viii. Opportunities for private sector investment in renewable energy and distributed electricity systems.

2.3. Electricity Generation, Transmission and Distribution

Siaya County's hydropower resources remain largely untapped, with a pipeline of proposed and planned projects principally associated with the Yala and Nzoia rivers, notably the Lihanda Small Hydropower Station (3.34 MW) in Gem Sub-County and the Ndanu Falls multi-purpose dam. In addition, the county has been identified by the Nuclear Power and Energy Agency (NuPEA) as a potential location for Kenya's nuclear energy development programme, with eight prospective sites mapped at Ugambe, Sirongo, Liunda, Manywanda, Osindo, Nyangoye, Kanyawayaga, and Dagamoyo.

Electricity infrastructure in Siaya County comprises one transmission primary substation, 1,831 secondary substations (distribution transformers), and three operational off-grid mini-grids, according to the CEP. National institutions, including Kenya Power and the Rural Electrification and Renewable Energy Corporation (REREC), are responsible for the development and operation of this infrastructure. The County Government complements these efforts through land-use planning, community engagement, coordination with national agencies, and facilitation of energy projects within its jurisdiction. As urbanization and economic activity expand, ensuring the availability and reliability of electricity infrastructure will remain critical to supporting the county's development objectives.

Policy Gaps and Challenges

- i. Limited influence of the County Government over generation, transmission, and distribution infrastructure planning due to the centralized nature of electricity sector governance.
- ii. Limited coordination mechanisms between county institutions and national utilities during planning and implementation of electricity infrastructure.
- iii. Insufficient electricity infrastructure in some rural and island areas of the county.
- iv. Limited awareness and community engagement around large-scale energy infrastructure projects, which can lead to resistance or delays.
- v. Gaps in sharing geospatial and infrastructure data between national utilities and county planning departments.
- vi. High cost and administrative complexities associated with electricity connection processes.
- vii. Centralization of energy service provision functions, limiting accessibility and responsiveness at the county level.

Opportunities

- i. Expansion of transmission infrastructure and substations that can improve electricity reliability and capacity in the county.
- ii. Grid extension programmes targeting rural trading centres, schools, health facilities, and water infrastructure under Last Mile Connectivity Programme.

- iii. Opportunities for the County Government to strengthen coordination with national agencies in planning electricity infrastructure.
- iv. Potential for integration of decentralized renewable energy systems to complement grid infrastructure in rural and island areas.
- v. Opportunities to streamline electricity connection processes through improved coordination, digitalization, and customer service mechanisms.

2.4. Clean Cooking

This section reviews the cooking energy situation in Siaya County by fuel and technology: biomass (firewood and charcoal), liquefied petroleum gas (LPG), biogas and electric cooking. For each, it summarizes the current status, the policy gaps and the opportunities that the Policy responds to.

2.4.1. Biomass Cooking (Firewood and Charcoal)

The current cooking situation in Siaya County is characterized by near-universal solid biomass dependence, highly inefficient combustion technologies, and a fuel-stacking practice in which households use multiple fuels and stoves simultaneously, typically using firewood (80 per cent), charcoal (14 per cent) and LPG (6 per cent) as primary fuel for cooking tasks. Fuel stacking reflects the structural reality that clean fuels are used to complement rather than replace biomass and is a key indicator that the clean cooking transition has not yet been internalized at the household level. Cooking energy practices are strongly gendered: women and girls are reported to undertake firewood collection in 90 per cent of cases, fuel transportation in 79 per cent and cooking in 95 per cent, compared with 18 per cent (collection) and 4 per cent (cooking) for men and boys. This demonstrates a highly gendered distribution of unpaid energy-related labour, exposing women and girls to physical strain and time poverty.

Policy Gaps and Challenges

- i. High upfront costs and limited financing mechanisms for acquisition of clean cooking technologies and alternative fuels.
- ii. Weak local clean cooking value chains, including limited support to enterprises involved in production and distribution of improved cooking solutions.
- iii. Absence of a structured county framework to guide sustainable biomass management and transition from traditional firewood use.
- iv. Inadequate county-level mechanisms to promote improved cookstoves and efficient biomass technologies.
- v. Limited structured interventions to reduce health and gender-related burdens associated with traditional firewood use.
- vi. Limited monitoring of charcoal production, supply flows and environmental impacts within the County.
- vii. Limited integration of charcoal value chain considerations into county forestry, environmental and climate programmes.

- viii. Limited promotion of improved charcoal cookstoves and efficiency-enhancing technologies.
- ix. Limited structured transition pathways from traditional charcoal use to cleaner and more sustainable cooking alternatives.

Opportunities

- i. Untapped biogas potential arising from livestock waste, agricultural residues and organic municipal waste streams within the County.
- ii. Availability of improved biomass cookstove (firewood and charcoal) technologies suitable for rural and urban contexts, with potential for local production and enterprise development.
- iii. Growing national and development partner focus on clean cooking transition and sustainable biomass management, which provides opportunities for technical and financial support.
- iv. Existing women and youth enterprise programmes within the County that may support clean cooking value chain development.
- v. Agroforestry and farm forestry potential within the County, which provides opportunities for sustainable woodlot development and biomass regeneration.
- vi. County mandate over forestry, environmental conservation and natural resource management under the Constitution of Kenya.

2.4.2. Liquefied Petroleum Gas

Liquefied Petroleum Gas represents a modern and cleaner cooking alternative within the national energy transition framework. However, uptake within Siaya County remains limited. According to the Siaya County Energy Plan, only 6 per cent of households use LPG as their primary cooking fuel, often supplementing it with charcoal or firewood.

Policy Gaps and Challenges

- i. Limited structured county-level interventions to promote sustained transition from biomass fuels to exclusive LPG use.
- ii. Absence of targeted strategies to address affordability barriers associated with LPG cylinder acquisition and refill costs.
- iii. Inadequate facilitation of last-mile distribution networks for LPG in rural and remote areas.

Opportunities

- i. The Kenya National Cooking Transition Strategy (KNCTS) 2024–2028 sets out the national roadmap towards universal access to clean cooking by 2028 and provides a framework for county-level alignment and implementation support.
- ii. Existing county-managed institutions such as hospitals, markets and educational facilities that provide anchor demand for institutional LPG adoption.

- iii. Expanding private sector interest in rural LPG distribution and pay-as-you-go delivery models.

2.4.3. Biogas

Biogas systems provide a clean and renewable cooking alternative derived from livestock waste, agricultural residues and organic waste streams. In predominantly rural contexts, household and institutional biogas systems can contribute to reduced reliance on firewood and charcoal, improved indoor air quality and enhanced waste management. However, uptake remains constrained by high initial installation costs, limited technical capacity, low awareness and absence of structured promotion mechanisms at county level.

Policy Gaps and Challenges

- i. Limited technical capacity and extension services to support design, installation and maintenance of biogas systems.
- ii. Absence of a county-level framework to promote and scale household and institutional biogas adoption.
- iii. High upfront capital costs and limited access to financing mechanisms for biogas installations.
- iv. Limited awareness of biogas technology, operational requirements and associated economic and environmental benefits.
- v. Limited integration of biogas into agricultural, livestock and waste management programmes within the County.

Opportunities

- i. Significant livestock ownership and agricultural activity within the County, providing feedstock potential for household and institutional biogas systems.
- ii. Organic waste streams from markets, institutions and agro-processing activities that can support decentralized biogas production.
- iii. Existing agricultural extension and livestock development services that may be leveraged to promote and support biogas uptake.
- iv. Growing national and development partner interest in decentralized renewable energy and circular economy approaches.

2.4.4. Electric Cooking

Electric cooking represents an emerging pathway within the clean cooking transition. However, adoption within Siaya County remains negligible. According to the County Energy Plan household survey, none of the sampled households reported using electricity as a primary or secondary cooking fuel.

Limited uptake is closely associated with the County's overall household electrification rate of 37 per cent, as well as concerns relating to reliability of supply, appliance costs and awareness of electric cooking technologies. In the absence of structured planning and targeted promotion,

electric cooking remains largely unrealized despite ongoing electricity access expansion and distributed generation initiatives.

Policy Gaps

- i. Absence of a county-level strategy to promote electric cooking as part of the clean cooking transition pathway.
- ii. Limited awareness of electric cooking technologies, appliance efficiency and operational cost implications.
- iii. Cultural preferences, cooking practices and behavioural norms that may limit acceptance and sustained adoption of electric cooking technologies.
- iv. Absence of pilot and demonstration initiatives to assess the technical and economic viability of electric cooking in households and public institutions.
- v. Limited engagement with appliance suppliers and distributors to improve availability of electric cooking devices within the County.

Opportunities

- i. Growing national and private sector interest in energy-efficient electric cooking appliances.
- ii. The Kenya National eCooking Strategy (KNeCS), which provides the national framework for accelerating adoption of electric cooking technologies and strengthening enabling market conditions.

2.5. Bioenergy

Bioenergy is a major component of Siaya County's energy mix and plays a significant role in meeting household and institutional energy needs. The county has substantial bioenergy resources derived from woody biomass, livestock waste, and agricultural residues. While bioenergy focuses on the production and management of biomass resources, its utilization is closely linked to clean cooking practices, which are addressed separately in Section 2.4 of this Policy. The CEP identified 3,956 households in the county with potential for small-scale biodigesters. Woody biomass supply is severely constrained: gazetted and community forests cover only 0.75 per cent of the county's land area, and household wood demand is estimated at about 496 times the sustainable yield. Sustainable development and management of bioenergy resources therefore present an opportunity to enhance energy security while supporting environmental conservation and local livelihoods.

Policy Gaps and Challenges

- i. Limited investment in modern bioenergy technologies and systems.
- ii. Underutilization of alternative bioenergy resources such as livestock waste and agricultural residues.
- iii. Heavy reliance on unsustainably sourced firewood and charcoal.
- iv. Degradation of woodlands and on-farm tree cover due to uncontrolled biomass harvesting.

- v. Informal and unregulated biomass value chains.
- vi. Limited adoption of sustainable biomass production practices.
- vii. Awareness gaps on availability of bioenergy sources.

Opportunities

- i. Potential for sustainable biomass production through agroforestry and woodlot development.
- ii. Development of biogas systems using livestock waste on mixed crop–livestock farms.
- iii. Opportunities to formalize and support biomass value chains in collaboration with the Kenya Forest Service.
- iv. Integration of bioenergy initiatives with environmental conservation and climate change programmes.
- v. Potential for private sector participation in sustainable biomass and bioenergy value chains.
- vi. Opportunities for introducing energy crops in the County.

2.6. Energy Resources

2.6.1. Solar Energy

Siaya County has an exceptional solar energy resource, making solar photovoltaic (PV) technology one of the most technically and economically viable energy solutions for households, institutions, enterprises, and productive uses across the county.

Solar energy deployment within Siaya County has to date been delivered through nationally led programmes and private market activity, without a County-level framework to guide resource mobilization, site selection, or investment targeting. Under the Kenya Electricity Modernization Project (KEMP), the Rural Electrification and Renewable Energy Corporation (REREC) is developing solar mini-grids in off-grid communities, including the Mageta Island solar mini-grid (60 kWp) in Bondo Sub-County, which was commissioned in 2024 and serves about 1,700 households and 11 public facilities.

Policy Gaps and Challenges

- i. Absence of a County solar energy strategy or sub-sector plan that maps resource potential at ward level, establishes measurable deployment targets, and assigns institutional responsibilities for solar energy development across public, commercial, and household segments.
- ii. Absence of a County procurement or demand aggregation mechanism for solar systems across public institutions, including health facilities, schools, administrative offices, and water pumping stations, which would reduce unit costs through consolidated procurement and define an institutional market for solar suppliers.
- iii. Solar energy considerations are not mainstreamed into the CIDP capital expenditure framework, public works construction standards, or building regulations.

- iv. Limited market surveillance, consumer awareness, and quality assurance mechanisms for solar energy technologies, contributing to the proliferation of substandard products and reduced consumer confidence in solar solutions.
- v. Absence of a County energy financing mechanism to address affordability constraints for low-income rural households seeking access to solar home systems and productive solar applications.
- vi. Absence of a County system for collecting, verifying, and publishing data on solar system deployment, installed capacity, and households served, which limits evidence-based planning and restricts the County's capacity to demonstrate investment readiness to development partners and private financiers.

Opportunities

- i. The County's engagement with REREC under KEMP enables it to identify and advance additional off-grid solar sites, on Lake Victoria Island communities and at fish landing beaches, within this national programme structure.
- ii. The Energy (Net-Metering) Regulations, 2024, gazetted under the Energy Act, 2019, allow Kenya Power grid-connected consumers to feed surplus rooftop solar electricity back to the grid for bill credits, enabling county institutions and businesses to offset costs without stand-alone off-grid systems.
- iii. The Renewable Energy Auctions Policy (2021) and the Feed-in Tariff (FiT) Policy (2021) define the national procurement pathways for grid-connected generation: grid-connected solar and wind projects are procured through competitive auctions, while feed-in tariffs apply only to small hydro, biomass and biogas plants of up to 20 MW.
- iv. REREC's mini-grid development programme, with ongoing works in Siaya County, enables joint site identification with the County Government, and formalizing this role would align national investment with county development priorities.
- v. Kenya's PAYGO solar home system market offers a private delivery mechanism for household solar access, where the County Government can engage authorized providers to coordinate coverage and direct deployment to priority areas without public capital expenditure.
- vi. The Energy Act, 2019 and the regulations and standards made under it, administered by EPRA, establish licensing and quality requirements for solar installations, and the County Government can work with EPRA and KEBS, which hold the enforcement mandate, to strengthen market oversight within Siaya without new legislation.
- vii. The Energy (Solar Water Heating) Regulations, 2025 require provision for solar water heating in the design of new premises, including health facilities, boarding schools and hotels, and give County Governments a role through building plan approvals.

2.6.2. Wind Energy

While the wind resource is insufficient for utility-scale generation, small-scale wind turbines in the range of 1 to 10 kW may complement solar PV systems in hybrid off-grid configurations,

particularly in exposed lakeshore areas of Bondo and Rarieda sub-counties where lake-land breeze patterns may provide more consistent wind.

Policy Gaps and Challenges

- i. Absence of a County policy position on small-scale wind energy applications.
- ii. County spatial and physical development plans do not set out siting criteria or approval procedures for small-scale wind turbine installations.
- iii. Absence of sufficient technical capacity within County energy and planning departments to assess small-scale wind turbine proposals, interpret wind resource data, and advise applicants on siting, equipment specification, and compliance with the licensing requirements administered by the Energy and Petroleum Regulatory Authority (EPRA).

Opportunities

- i. REREC's ongoing hybrid solar mini-grid programme, which includes works in Siaya County under KEMP, enables small-scale wind turbines to be incorporated alongside solar PV at lakeshore sites in Bondo and Rarieda sub-counties where lake-breeze circulation produces more consistent wind conditions.
- ii. The Energy Act, 2019, administered by EPRA, provides the licensing framework for small-scale wind generation, which the County Government can reference in spatial plans and development controls to give applicants a clear approval pathway for hybrid wind installations.
- iii. The Global Wind Atlas provides publicly accessible, screening-level wind resource data for Siaya County that can inform spatial plans and site pre-selection at no cost, although site-specific measurement will still be required for project design.

2.6.3. Hydro-Power

Siaya County contains untapped small hydropower potential. The most advanced proposed scheme is the Lihanda Small Hydropower Station, a 3.34 MW run-of-river facility on the River Yala in Gem Sub-County, which is at pre-feasibility stage. The national government has completed pre-feasibility for the Ndanu Falls multi-purpose dam (hydropower, irrigation storage and flood management; estimated investment of about US\$ 85.9 million), which is not yet investment-ready.

Beyond Lihanda and Ndanu Falls, Siaya's river network and sites identified in the County physical plan indicate further small hydro opportunities that could support local power needs, contribute to economic hubs and provide distributed, low-carbon generation complementing grid expansion. However, these resources remain largely undeveloped and project activity to date is project-specific rather than planned within an integrated County resource strategy.

Policy Gaps and Challenges

- i. Absence of a consolidated County-level hydropower resource inventory and prioritization framework that maps potential sites, technical viability, environmental sensitivity and socio-economic footprints.
- ii. High cost required for hydropower development.

Opportunities

- i. Pre-feasibility work on the Lihanda Small Hydropower Station and the Ndanu Falls multi-purpose dam provides a project pipeline that the County can help progress to full feasibility, ESIA and investor packaging, with national agencies and the private sector, while capturing local benefits.
- ii. Potential to link hydropower development with local economic anchors such as the proposed Siaya County Aggregation and Industrial Park at Got Akara (the Got Akara Industrial Park) and fish-processing cold chains, strengthening the business case for local offtake and reduced transmission needs.

2.6.4. Waste-to-Energy

Waste-to-Energy (WtE) denotes the conversion of solid, liquid, or gaseous waste materials into useful energy outputs, principally electricity, thermal energy, or gaseous fuel, through biological, thermal, or chemical processes. Siaya County has access to several categories of organic waste stream that constitute viable feedstocks for WtE systems. These include biodegradable municipal solid waste generated at Siaya Town, Bondo, Ugunja, Yala, and other urban centres; fish processing residues including offal, carcasses, and process wastewater from landing beaches on Lake Victoria; livestock manure from the County's cattle, goat, and pig farming sector; agricultural residues including maize stover, sorghum husks, and sugarcane bagasse; and organic market waste from the County's network of periodic markets.

Policy Gaps and Challenges

- i. Absence of a County WtE policy, strategy, or institutional framework.
- ii. Waste collection services in the County are limited in spatial coverage, and no waste segregation programme requiring separation of organic from non-organic waste at the point of generation is in place.
- iii. No quantification of the organic waste generated across the County by source, location, or composition has been undertaken.
- iv. No inter-departmental or inter-agency coordination mechanism for WtE planning exists at the County level.
- v. Absence of a County framework for public-private partnerships (PPPs) for WtE investment, including provisions for waste supply agreements, offtake arrangements for energy outputs, land allocation, and permitting procedures, that would give private investors the certainty required to commit capital.
- vi. Awareness of biogas and WtE technologies among communities and households in Siaya County is limited.

Opportunities

- i. The Sustainable Waste Management Act, 2022 and the National Sustainable Waste Management Policy (2021) confer on the County Government a statutory mandate to develop integrated waste management systems incorporating energy recovery. The County may draw on these instruments to establish a WtE institutional framework, assign departmental responsibility for WtE coordination, and direct solid waste management planning towards the incorporation of energy recovery objectives.
- ii. The FiT Policy (2021) designates biogas as an eligible technology under which electricity generated from anaerobic digestion may be supplied to the grid at a guaranteed pre-set tariff for projects not exceeding 20 MW. This instrument applies to biogas-to-electricity projects drawing on the organic waste streams available in Siaya County and establishes the tariff certainty that enables private investment at landing beach, market, and agricultural processing sites.
- iii. The Kenya Bioenergy Strategy (2020–2027) and the Kenya Standard KS 2951:2022 (Biogas systems — Code of practice) issued by KEBS set out the technical and policy requirements for the design, installation, and operation of biogas systems at farm and community scale. The County may apply these standards as the specification basis for any County-supported biodigester programme, ensuring compliance with national requirements and enabling access to national technical assistance.
- iv. The Kisumu organic waste-to-biogas initiative in neighbouring Kisumu County, supported by European Investment Bank technical assistance under the City Climate Finance Gap Fund, is preparing a system to collect organic waste from markets and informal settlements and convert it into biogas for cooking and organic fertiliser. The County Government may engage the County Government of Kisumu and its partners to draw lessons on feasibility, technical design and waste logistics when preparing County-level WtE project proposals.
- v. The Climate Change Act, 2016, as amended by the Climate Change (Amendment) Act, 2023, and the Climate Change (Carbon Markets) Regulations, 2024 provide the legal framework for carbon projects in Kenya, including authorization by the Designated National Authority, registration on the National Carbon Registry and mandatory community benefit-sharing for projects on public or community land. Biogas and other projects that displace non-renewable biomass can generate carbon credits under recognized crediting standards, providing an additional revenue stream that strengthens the financial case for private investment in Siaya County.

2.7. Productive Use of Energy

Energy access within the County remains primarily oriented toward household consumption and basic service delivery. Limited emphasis has been placed on integrating renewable energy solutions into income-generating activities across key productive sectors, including agriculture, fisheries and small and medium enterprises.

In an agrarian and lake-adjacent economy such as Siaya, reliable and affordable energy can enable value addition, agro-processing, irrigation, cold storage, fish preservation, milling, welding, carpentry and other micro-enterprise activities. However, the linkage between energy access interventions and local economic transformation remains underdeveloped. Energy planning has

not been systematically aligned with sector strategies aimed at improving productivity, reducing post-harvest losses and strengthening local enterprise development.

Policy Gaps and Challenges

- i. Limited integration of energy planning into agriculture, fisheries, trade, enterprise and industrialization programmes.
- ii. Weak coordination between energy planning and value chain development initiatives within key economic sectors.
- iii. Limited technical support and financing mechanisms for micro and small enterprises to adopt energy efficient and renewable energy technologies.
- iv. Absence of structured and locally appropriate incentive mechanisms to stimulate private sector investment in productive uses of renewable energy.

Opportunities

- i. The planned development of the Siaya County Aggregation and Industrial Park in Got Akara, Alego Usonga Sub-County, aimed at promoting value addition for fish and local agricultural produce and reducing post-harvest losses, which provides a strategic anchor site for integration of reliable and renewable energy solutions to support agro-processing, cold storage and enterprise development.
- ii. Solar-powered irrigation and water pumping for livestock and agricultural production.
- iii. Use of electricity and renewable energy technologies for agro-processing and value addition.
- iv. Expansion of cold storage and cooling infrastructure to support livestock and fisheries value chains.
- v. Growth of micro, small, and medium enterprises in electrified trading centres.
- vi. Integration of energy solutions into water supply systems and borehole operations.
- vii. Partnerships with development partners and private sector to promote productive use of energy technologies.
- viii. Increasing youth entrepreneurship interest in agribusiness and small-scale manufacturing, creating a potential market for energy-enabled enterprise incubation.

2.8. Energy Efficiency and Conservation

Energy efficiency and conservation remain underdeveloped within Siaya County's energy planning and service delivery frameworks. Energy investments have largely focused on access expansion and deployment of new infrastructure, with limited emphasis on optimizing energy use across public facilities, enterprises and households.

County-managed infrastructure such as health facilities, markets, water supply systems, street lighting and administrative buildings consumes increasing amounts of electricity and fuel. However, structured energy audits, efficiency standards and performance monitoring mechanisms are not systematically applied. Inefficient lighting systems, ageing equipment, poorly maintained

water pumps and limited adoption of energy-efficient appliances contribute to higher operational costs and increased energy demand. In the absence of a structured demand-side management approach, opportunities to reduce expenditure, enhance reliability and lower environmental impacts remain largely unrealized.

Policy Gaps and Challenges

- i. Absence of a county-level framework or guidelines to promote energy efficiency and conservation across public facilities and infrastructure.
- ii. Limited implementation of energy audits and performance monitoring within county-managed institutions.
- iii. Limited integration of energy-efficient technologies into procurement and infrastructure development processes.
- iv. Limited public awareness and behavioural interventions promoting energy conservation practices.

Opportunities

- i. Availability of national energy efficiency guidelines and standards that can inform county-level implementation.
- ii. Collaboration with national agencies and development partners to promote energy efficiency initiatives.
- iii. Integration of energy efficiency measures in public buildings and infrastructure.
- iv. Increasing availability of energy-efficient appliances in the market.
- v. Public awareness campaigns on energy conservation practices.
- vi. Promotion of improved cooking technologies that reduce fuel consumption.
- vii. Adoption of energy-efficient lighting systems in households and public facilities.

2.9. Cross-Cutting Issues

2.9.1. Gender, Disability and Social Inclusion

Energy access and use in Siaya County are closely linked to social equity considerations. The high reliance on biomass, with about 80 per cent of households using firewood as their primary cooking fuel, places disproportionate time and health burdens on women and girls, who are reported in the CEP household survey to undertake firewood collection in 90 per cent of cases and cooking in 95 per cent. Exposure to household air pollution from traditional biomass fuels contributes to respiratory and other health risks, with implications for women, children and vulnerable populations.

Limited access to reliable electricity and affordable clean cooking further constrains economic participation, access to information and delivery of essential services for female-headed households, persons with disabilities, older persons, island communities and other marginalized groups. Energy infrastructure and public participation processes have not consistently incorporated accessibility considerations or targeted support mechanisms to ensure inclusive benefit sharing.

While the County has broader gender and social development frameworks, energy planning has not systematically applied gender-responsive and inclusion-sensitive approaches. Addressing energy poverty therefore requires deliberate integration of gender, disability and social inclusion considerations across all thematic areas of this Policy.

Policy Gaps and Challenges

- i. Women and girls carry the time, safety and health costs of biomass cooking because clean cooking options remain out of reach: about 80 per cent of households cook mainly on firewood, and women and girls do most of the collection and cooking.
- ii. Cost keeps low-income, female-headed, older-person and disability-affected households and island communities off modern energy. Connection charges, appliance costs, LPG and PAYGO deposits, higher mini-grid tariffs and repossession after missed payments exclude them even where infrastructure exists, and women's limited ownership of land and assets restricts their access to credit.
- iii. Persons with disabilities, women, youth and island communities are excluded from using, shaping and earning from energy services. Products, payment platforms, public facilities and consultation venues are not accessible, participation in county energy decisions is limited or tokenistic, and few women and youth hold technical and business roles in solar, cookstove, LPG and biogas value chains.

Opportunities

- i. The Constitution of Kenya, 2010 (Articles 27, 54, 55 and 56), the Persons with Disabilities Act, 2025 and the Ministry of Energy's Gender Policy in Energy (2019) and related mainstreaming guidelines, which provide a structured framework for integrating gender and inclusion across energy planning, implementation and monitoring.
- ii. Established County departments responsible for gender, youth and social services, together with women's and youth groups, chamas and Organizations of Persons with Disabilities (OPDs), which provide institutional platforms for mainstreaming inclusion across energy interventions.
- iii. The Access to Government Procurement Opportunities (AGPO) reservation of 30 per cent of public procurement for youth, women and persons with disabilities, which can be applied to county energy procurement such as solar installation and cookstove supply.
- iv. Growing development partner, results-based and carbon finance interest in gender-responsive clean cooking, together with local TVET institutions, which can co-finance affordable access and train women and youth for energy jobs.

2.9.2. Environment, Health and Climate Change

The energy profile of Siaya County, characterized by high reliance on traditional biomass fuels and limited adoption of modern energy solutions, has implications for environmental sustainability and public health. Continued dependence on firewood and charcoal contributes to pressure on forest resources, land degradation and greenhouse gas emissions. Household air pollution associated with biomass combustion remains a significant health concern.

At the same time, the County faces climate variability risks affecting agriculture, fisheries and water resources. Renewable energy and energy efficiency interventions present opportunities for climate mitigation and adaptation, including reduced emissions, improved resource efficiency and strengthened resilience of critical infrastructure.

Although the County has environmental and climate-related programmes, integration of energy considerations into climate action planning and environmental conservation initiatives remains limited. A coordinated approach would enable co-benefits across health, environmental protection and economic resilience.

Policy Gaps and Challenges

- i. Limited integration of energy planning and implementation within county climate change action and environmental management instruments.
- ii. Limited institutional alignment between energy sector interventions and county-led environmental conservation, forestry and natural resource management programmes.
- iii. Lack of an institutionalized system to assess and monitor the environmental, public health and climate impacts associated with energy production and consumption patterns.

Opportunities

- i. The Climate Change Act and related national climate policy instruments, which provide a framework for aligning clean energy interventions with mitigation and adaptation priorities.
- ii. Existing County Climate Change Action Plans and environmental conservation programmes that can serve as platforms for embedding renewable energy, clean cooking and energy efficiency measures.
- iii. Ongoing climate finance and green growth initiatives at national and international levels that can support low-emission and climate-resilient energy investments.

2.9.3. Research, Development and Innovation

Energy sector interventions within Siaya County have largely focused on deployment of existing technologies, with limited structured emphasis on research, innovation and local technology adaptation. Given the County's unique socio-economic and geographic characteristics, including lake-based fisheries, dispersed rural settlements and strong agricultural activity, there is potential to pilot context-specific renewable energy and clean cooking solutions.

However, collaboration between the County Government, technical training institutions, universities, innovators and private sector developers remains limited. There is no structured framework to promote pilot projects, demonstration sites or technology testing in areas such as electric cooking, biogas, solar-powered cold storage or energy-efficient agro-processing.

Limited documentation and dissemination of lessons from implemented projects further constrain scaling and replication of successful models. Strengthening research and innovation linkages

would enhance local capacity, support enterprise development and enable adaptive energy solutions suited to the County's context.

Policy Gaps and Challenges

- i. Lack of a structured framework to promote energy research and innovation at county level.
- ii. Limited collaboration with universities, technical institutions and private innovators.
- iii. Limited piloting and demonstration of emerging clean energy technologies.
- iv. Limited documentation and dissemination of lessons from energy interventions.

Opportunities

- i. The proposed Got Akara Industrial Park in Alego Usonga Sub-County, which can serve as a pilot and demonstration hub for renewable energy integration, energy-efficient agro-processing technologies and productive use innovations.
- ii. Existing Technical and Vocational Education and Training institutions within the County that can support skills development, technology adaptation and maintenance capacity for renewable energy and clean cooking systems.

2.9.4. Energy Financing

Energy sector development within Siaya County is financed through a combination of county budget allocations, national government programmes and development partner-supported initiatives. However, financing remains largely fragmented and project-driven, with no consolidated county-level financing framework to guide prioritization, mobilization and tracking of investments across electricity access, decentralized renewable energy, clean cooking and productive use interventions. The CIDP 2023–2027 allocates about KES 1.325 billion to energy and related projects (about 0.66 per cent of its budget), whereas the quantified investment portfolio in the CEP is about KES 31.3 billion, leaving a financing gap of about KES 30.9 billion.

Energy-related expenditures are currently embedded across multiple departments, including infrastructure, environment, trade, agriculture and public health, without a harmonized budgeting structure that clearly identifies energy as a standalone programme area. This limits visibility of total energy investments and constrains the County's ability to strategically allocate resources based on identified access gaps and transition priorities.

Furthermore, structured mechanisms to mobilize private sector investment, blended finance and climate finance remain underdeveloped. Given the high reliance on traditional biomass fuels, low uptake of clean cooking technologies and limited integration of renewable energy into productive sectors, significant capital investment will be required to accelerate transition pathways. In the absence of a defined resource mobilization strategy, scaling energy interventions may remain constrained by limited fiscal space and competing development priorities.

Policy Gaps and Challenges

- i. Limited ring-fenced budgetary allocation for energy sector development.

- ii. Limited capacity to mobilize private sector investment and blended finance for energy initiatives.
- iii. Limited utilization of climate finance and green funding instruments for renewable energy and clean cooking initiatives.

Opportunities

- i. Availability of national and international climate finance mechanisms supporting clean energy transition.
- ii. Integrating energy priorities into county budgeting and sector investment planning.
- iii. Promoting innovative financing models such as PAYGO and co-financing for decentralized energy systems.
- iv. Using the County Energy Policy to signal investment priorities and attract development finance and private capital.
- v. Leveraging public-private partnerships to mobilize investment for energy infrastructure and services.
- vi. Accessing climate finance, green finance, and results-based financing mechanisms.

2.9.5. Energy Data Management

Effective energy planning and monitoring require reliable, up-to-date and disaggregated data. While the County Energy Plan household survey has provided an important baseline, including statistics indicating that 37 per cent of households are connected to grid electricity and high dependence on biomass fuels, energy data collection within the County remains largely episodic rather than institutionalized.

There is currently no centralized county energy data management system to regularly collect, update and analyze information on electricity access, cooking fuel usage, decentralized renewable energy deployment, productive use demand and energy consumption within public facilities. Data related to energy investments by private sector actors and development partners is not systematically consolidated, limiting visibility of interventions occurring across the County. Additionally, energy data within the County is not consistently disaggregated at ward level, limiting the ability to identify spatial disparities in electricity access, cooking fuel usage, renewable energy deployment and productive energy demand. The absence of ward-level data constrains targeted planning, prioritization of underserved areas and equitable resource allocation.

The absence of structured data governance mechanisms constrains evidence-based planning, prioritization of underserved areas and performance monitoring. It also limits the County's ability to engage effectively with national planning processes and potential investors who require credible data for decision-making.

Policy Gaps and Challenges

- i. Limited availability of real-time and disaggregated energy data at county level.

- ii. Inadequate sharing of technical and geospatial data between county institutions and national utilities.
- iii. Absence of regularly updated and ward-disaggregated energy data to support targeted planning and equitable resource allocation.
- iv. Limited data on institutional energy demand, productive uses of energy, and off-grid systems.
- v. Weak data management systems for tracking implementation progress and sector performance.
- vi. Limited analytical capacity for continuous energy planning and forecasting.

Opportunities

- i. The Integrated National Energy Planning (INEP) framework and the Energy (Integrated National Energy Plan) Regulations, 2025, which require counties to collect energy data and report annually on county energy plan implementation.
- ii. Use of GIS and digital planning tools to improve energy infrastructure planning.
- iii. Strengthening the role of the Energy Directorate and TWG in coordinating data collection and analysis.
- iv. Building on the County Energy Plan as a baseline for future planning and monitoring.
- v. Strengthening collaboration with national utilities and agencies for access to infrastructure and connection data.
- vi. Integrating energy data collection into county planning, monitoring, and sector reporting systems.

CHAPTER THREE: POLICY STATEMENTS

This Chapter translates the challenges and opportunities identified in the Situation Analysis into clear government commitments and concrete actions for the period 2026 to 2035. It is organized around the ten Policy Objectives set out in Section 1.4. For each Policy Objective, the Chapter states the issue the County Government intends to address, the Policy Statements that express its commitment, and the Policy Strategies through which each commitment will be delivered.

The Policy Statements are aligned with the Energy Act, 2019, the Energy (Integrated National Energy Plan) Regulations, 2025, the National Energy Policy 2025–2034 and the County Integrated Development Plan. Each Policy Strategy is carried into the costed Implementation Plan in the Annex, which specifies its expected output, key performance indicator, timeframe, estimated cost, funding sources and lead responsibility, and which is tracked through the monitoring and evaluation framework in Chapter 5.

Policy Objective 1: To Strengthen Governance, Institutional and Coordination Frameworks for Effective Energy Sector Management within the County.

The energy function in Siaya County is currently embedded within a broader departmental mandate, with limited dedicated staffing, no formalized cross-sectoral coordination mechanisms and no structured framework for multi-stakeholder engagement or energy project tracking. These gaps constrain strategic planning and impede the County's ability to fulfil its devolved mandate under the Energy Act, 2019. Energy investments are implemented in a fragmented, project-driven manner across multiple departments without a coordinating institution to provide oversight, align resources and ensure accountability. The County Government commits to building institutional foundations that will enable effective, accountable and coordinated energy sector management.

Policy Statement 1.1: The County Government shall establish and operationalize a dedicated County Energy Directorate with sufficient staffing, technical capacity and financial resources to anchor the devolved energy function.

Policy Strategies:

- i. Establish a County Energy Directorate within the relevant county department with clearly defined functions, roles and reporting structures, in accordance with the Energy Act, 2019 and the Fourth Schedule to the Constitution of Kenya, 2010.
- ii. Recruit qualified energy professionals to fill designated technical positions within the County Energy Directorate and run a structured capacity building programme for existing and incoming staff covering energy planning, renewable energy technologies, clean cooking, data management and investment facilitation.
- iii. Ring-fence a dedicated budget line for the County Energy Directorate within the annual County Budget, covering staffing, operational costs, planning activities and energy programme coordination.

- iv. Designate energy focal persons within all relevant county departments, including health, agriculture, water, trade, education and infrastructure, to facilitate cross-sectoral coordination and the integration of energy into departmental work plans.
- v. Leverage technical assistance from REREC, the Ministry of Energy and Petroleum, development partners and research institutions to supplement county technical capacity during the early years of implementation.

Policy Statement 1.2: The County Government shall institute formal coordination mechanisms to ensure integrated energy planning and accountability across county departments, national institutions and non-state actors.

Policy Strategies:

- i. Constitute and operationalize the County Energy Planning Committee (CEPC) through the Governor's instrument, as required under Regulation 6 of the Energy (Integrated National Energy Plan) Regulations, 2025, chaired by the CECM responsible for energy, with the County Director of Energy as Secretary, supported by a technical sub-committee chaired by the Director.
- ii. Hold mandatory semi-annual inter-departmental energy coordination meetings to review progress on energy-related programmes, align budgets and resolve implementation bottlenecks.
- iii. Engage the Council of Governors and the Ministry of Energy and Petroleum, and conclude coordination protocols with Kenya Power, REREC, EPRA and other national energy institutions, so that national programmes in the County are planned jointly and county data and priorities are reflected in them.
- iv. Adopt a county procedure for energy public-private partnerships, consistent with the Public Private Partnerships Act, 2021, and use it to structure the County's first priority energy partnerships, such as solar cold storage at landing beaches, mini-grids and waste-to-energy projects, with clear risk-sharing, revenue-sharing and performance terms.
- v. Institutionalize an annual Siaya County Energy Forum to convene county government, national institutions, development partners, the private sector and communities for dialogue, accountability and investment promotion.

Policy Statement 1.3: The County Government shall coordinate energy investments across all actors, prevent duplication and align county law, plans and budgets with national energy legislation.

Policy Strategies:

- i. Establish a County Energy Project Register maintained by the County Energy Directorate, in which energy projects implemented within the County by national agencies, development partners and private actors are recorded, with their location, cost, status and

beneficiaries, drawing on information those actors share with the County through the coordination protocols and data-sharing agreements concluded under this Policy.

- ii. Publish an annual consolidated County Energy Sector Report drawing on the Project Register and the county energy data system, providing transparent public reporting on all energy investments and progress against the policy.
- iii. Formulate and enact county energy legislation, regulations and guidelines to give effect to the County Energy Plan and the county energy governance arrangements established under this Policy.
- iv. Review existing county policies and plans against national energy legislation and the National Energy Policy 2025–2034, and amend those that conflict with or duplicate them.
- v. Mainstream energy as a dedicated programme area in the County Integrated Development Plan, Annual Development Plans and sector budgets, and require each department to report its energy-related activities and expenditure.
- vi. Review the County Energy Plan at the intervals required by the Energy (Integrated National Energy Plan) Regulations, 2025, obtain the approval of the County Executive Committee and the County Assembly for each reviewed plan, submit annual implementation reports to the Cabinet Secretary responsible for energy by 31 July each year, and publish them on the County website.

Policy Objective 2: To Facilitate Inclusive and Affordable Access to Electricity within the County Mandate.

As of February 2026, only 37.0 per cent of households in Siaya County were connected to grid electricity, and nearly two-thirds of households remain unconnected, with the gaps most acute in rural sub-locations. Dispersed settlement raises the cost of grid extension, while connection charges, tariffs and appliance costs put electricity out of reach for many low-income households, and unreliable supply forces some institutions to depend on diesel backup. Generation, transmission and distribution are national functions delivered by KenGen, KETRACO, Kenya Power and REREC, and Siaya’s hydropower, solar and wind resources remain largely undeveloped. The County Government therefore commits to using its planning, land-use, coordination and facilitation powers to direct electrification to those who are unserved, to extend decentralized renewable energy to off-grid and island communities, and to help bring the County’s renewable resources to investment readiness. The County Energy Plan sets milestones of 75 per cent household electricity access by 2028 and universal access by 2030 and identifies 50 health facilities and 302 learning institutions that remain unelectrified.

Policy Statement 2.1: The County Government shall identify, prioritize and advocate for electricity access interventions that reach underserved and unserved households, public facilities and enterprises, in collaboration with national electrification agencies.

Policy Strategies:

- i. Map and maintain a ward-disaggregated County Electricity Access Register identifying electrified, underserved and unserved households, public facilities and enterprises, updated annually to guide where county and national investment is directed.
- ii. Engage REREC and Kenya Power through joint planning meetings so that the County's priority areas are registered in national electrification programmes, including the Last Mile Connectivity Programme, and track the connections these programmes deliver in each ward.
- iii. Implement a phased programme to electrify county-managed health facilities, early childhood education centres, vocational training centres, markets and water supply systems through grid connection or solar systems, prioritizing facilities in unserved wards and following the County Energy Plan priorities (50 health facilities and 302 learning institutions by 2028, and 403 water points solarised or hybridised by 2035).
- iv. Facilitate household and business last-mile connectivity by using the County's social development budget and partner funding to support eligible low-income rural residents to meet connection costs, and by agreeing with Kenya Power on group-based payment arrangements. Connection charges and tariffs remain set by the national utility and EPRA.
- v. Report electricity fault hotspots to Kenya Power on a regular schedule and advocate for infrastructure upgrades in those areas, so that public institutions are not forced to rely on diesel backup.
- vi. Streamline the approvals within the County's control, including development permissions, county permits and community consultation, and engage the proponents of major electricity infrastructure on local benefit-sharing arrangements. Wayleaves and compulsory land acquisition remain matters for the National Land Commission, KETRACO and Kenya Power under national law.

Policy Statement 2.2: The County Government shall coordinate and support the deployment of solar mini-grids, solar home systems and other decentralized renewable energy solutions in off-grid, island and lakeshore communities.

Policy Strategies:

- i. Work with REREC under the Kenya Electricity Modernization Project to identify additional off-grid island and lakeshore sites, building on the Mageta Island solar mini-grid commissioned in 2024, and prioritize them for solar and hybrid solar–wind mini-grids.

- ii. Ensure that anchor loads, including county-managed health facilities, ECDE centres and markets in off-grid areas, are connected to mini-grids or standalone solar systems from the outset.
- iii. Engage pay-as-you-go solar providers that hold the required EPRA authorization to coordinate coverage and direct deployment to priority wards through memoranda of understanding, without public capital expenditure. Product quality standards remain with KEBS and EPRA.
- iv. Train county technical staff and community-based technicians in the installation, operation, maintenance and troubleshooting of solar home systems and mini-grids.

Policy Statement 2.3: The County Government shall promote a quality-assured solar market and use county procurement and building standards to expand solar deployment in public institutions.

Policy Strategies:

- i. Request EPRA and the Kenya Bureau of Standards, which hold the mandate for product standards and enforcement, to conduct regular market inspections within the County; report substandard solar products found in county markets to them for action; and run consumer awareness on quality-verified products.
- ii. Aggregate demand for solar systems across public institutions, including health facilities, ECDE and vocational training centres, administrative offices and water pumping stations, and procure them in consolidated tenders to lower unit costs.
- iii. Mainstream solar-readiness provisions into county public building standards and building plan approvals for new county buildings.
- iv. Give effect to the Energy (Solar Water Heating) Regulations, 2025 by requiring solar water heating provisions in building plan approvals within the County's mandate, and roll out solar water heating at county health facilities (targeting Level 4 and 5 hospitals: 30 per cent by 2028, 60 per cent by 2030 and 100 per cent by 2035) and county-managed boarding institutions. Licensing of installers remains with EPRA.

Policy Statement 2.4: The County Government shall facilitate the development of electricity infrastructure and of the County's hydropower and wind resources in coordination with national institutions and project proponents.

Policy Strategies:

- i. Commission a county hydropower resource inventory, and support the Lihanda Small Hydropower Station and the Ndanu Falls multi-purpose dam project by facilitating county permits, land-use planning and community engagement, and by seeking local benefit-sharing arrangements with the project proponents. Generation licensing remains with EPRA and water-resource permits with the Water Resources Authority.

- ii. Map and maintain a ward-level database of the County's renewable energy resources, including solar, hydropower, wind and bioenergy, to support site selection and investor engagement.
- iii. Pilot hybrid solar–wind systems at suitable lakeshore sites in Bondo and Rarieda sub-counties with REREC, using the Global Wind Atlas for screening and on-site measurement for design.
- iv. Set siting criteria and approval procedures for small-scale wind installations in the County's spatial and physical development plans, and build staff capacity to review wind proposals for land-use compliance and refer them to EPRA and NEMA for the licences and approvals those bodies issue.
- v. Coordinate with KETRACO, Kenya Power and REREC on substation and line capacity for growing urban demand in Siaya, Bondo and Ukwala, and on land-use planning for transmission and distribution corridors.
- vi. Engage the Nuclear Power and Energy Agency and the national government, which hold the nuclear programme mandate, to request that any siting process affecting communities in the County is preceded by early, transparent public participation and local benefit-sharing, and represent the County in those processes.

Policy Objective 3: To Promote Transition to Clean, Efficient and Sustainable Cooking Solutions.

About 80 per cent of households in Siaya County cook primarily on firewood, 14 per cent on charcoal and only 6 per cent on LPG, and three-stone open fires remain the main cooking technology for 73 per cent of all households and 96.7 per cent of rural households. Households stack fuels rather than replace biomass, and electric cooking was not reported by any surveyed household. The burden falls mainly on women and girls, who undertake most firewood collection and cooking, and the biomass supply chain remains largely informal and unsustainable. High upfront costs, weak distribution networks in rural areas, limited awareness and the absence of structured county support continue to impede the transition. The County Government commits to driving a measurable shift to cleaner, more efficient and sustainable cooking solutions for households, public institutions and enterprises, and to making biomass supply more sustainable while the transition proceeds.

Policy Statement 3.1: The County Government shall implement a County Clean Cooking Programme, aligned with the Kenya National Cooking Transition Strategy 2024–2028, with measurable annual targets for the adoption of clean cooking solutions.

Policy Strategies:

- i. Adopt a County Clean Cooking Transition Plan aligned with the Kenya National Cooking Transition Strategy, setting annual adoption targets by sub-county, assigning departmental responsibilities and budgets, and aiming at the County Energy Plan targets of reducing

three-stone open fire use from 73 per cent of households to 18 per cent by 2030 and 0 per cent by 2035, and raising the share of households using clean fuels as their primary fuel to 22.6 per cent by 2030 and 50 per cent by 2035.

- ii. Implement clean cooking adoption programmes for households, MSMEs and institutions across all six sub-counties, including distribution of improved stoves, and report annual adoption against the plan.
- iii. Conduct ward-level clean cooking awareness and demonstration campaigns through community barazas, women's groups, ECDE centres, chiefs and community health workers, focusing on the health, time and cost benefits of clean cooking.
- iv. Transition county-managed institutions, including health facilities, ECDE centres, vocational training centres and markets, from firewood to LPG, electric or biogas cooking on a phased basis, starting with those with the highest fuel use.
- v. Partner with financial institutions, SACCOs, chamas and development partners to pilot consumer financing for clean cooking products, including hire-purchase, microloans and pay-as-you-go models.
- vi. Streamline county business permits and trade licences for enterprises involved in LPG distribution, improved cookstove production and biogas installation, and help operators to obtain the EPRA licences and KEBS certification that national law requires.
- vii. Support EPRA-licensed suppliers to establish LPG refill points in rural and peri-urban areas, aiming for at least one refill point in each of the 30 wards by 2028, by providing market space and county permits, and work with suppliers and development partners on ways to ease cylinder deposits for low-income households.

Policy Statement 3.2: The County Government shall promote sustainable biomass production and use, within its mandate, to reduce unsustainable firewood and charcoal harvesting while the transition to clean cooking proceeds.

Policy Strategies:

- i. Support charcoal producers who hold Kenya Forest Service licences to organize into producer associations and to meet tree-planting and restoration commitments, and require proof of a valid Kenya Forest Service licence before issuing county trade permits to charcoal dealers. Licensing of charcoal production and transport remains with the Kenya Forest Service.
- ii. Monitor charcoal volumes and supply flows in the County using county trade-permit data and information shared by the Kenya Forest Service, and report annually on volumes, sources and environmental impacts.
- iii. Partner with the Kenya Forest Service, farmers and community groups to increase tree cover through agroforestry, woodlots and farm forestry.

- iv. Map woody biomass stock, demand and net productivity each year to guide harvesting limits and tree planting.
- v. Promote improved cookstoves, including efficient charcoal stoves, among rural and urban households as a transitional option, and support local stove producers.
- vi. Promote the collection and transport of bioenergy feedstock to aggregation centres, with support for centre operators.

Policy Statement 3.3: The County Government shall promote biogas and waste-to-energy as clean cooking and energy pathways suited to the County's livestock, agricultural and organic waste resources.

Policy Strategies:

- i. Implement a County Biogas Extension Programme for households with sufficient livestock, offering installation support, financing linkages and training for technicians, and applying national technical standards for biogas systems, with a target of 3,000 household and 10 institutional digesters by 2035.
- ii. Install demonstration biogas systems at county-managed institutions with reliable organic waste supply, prioritizing health facilities, markets, ECDE centres and vocational training centres.
- iii. Conduct feasibility studies for bioenergy potential, including biogas, crop residues, municipal waste and fish processing waste, to identify bankable projects.
- iv. Quantify organic waste by source and location, and introduce segregation of organic waste at markets and in Siaya Town, Bondo, Ugunja, Yala and other urban centres, to secure feedstock for energy recovery.
- v. Pilot waste-to-energy installations at markets and landing beaches, coordinated by an inter-departmental team drawn from waste management, energy, environment, agriculture, fisheries and health.
- vi. Structure public-private partnerships for waste-to-energy investment with clear provisions for waste supply, land, permitting and energy offtake, and pursue carbon crediting for eligible projects.

Policy Statement 3.4: The County Government shall promote electric cooking as a complementary clean cooking pathway where electricity access, reliability and affordability allow.

Policy Strategies:

- i. Pilot electric cooking at county public institutions and evaluate the results for cost, reliability and acceptability.

- ii. Engage appliance suppliers, utilities and financiers to improve the availability and affordability of efficient electric cooking appliances, and run awareness on appliance efficiency, safety and operating costs, aligned with the Kenya National eCooking Strategy.
- iii. Equip newly constructed or newly electrified county public facilities with electric or LPG cooking systems as the default cooking technology.

Policy Objective 4: To Enhance the Productive Uses of Renewable Energy across Key Economic Sectors.

Siaya's economy is anchored on agriculture, livestock, fisheries, trade and small enterprises, yet energy access has been oriented mainly towards household consumption and basic services. Energy planning has not been systematically aligned with sector strategies to reduce post-harvest losses, add value and strengthen local enterprises, so the economic benefits of energy investment have not been fully realized. The planned Siaya County Aggregation and Industrial Park at Got Akara offers a strategic anchor for reliable and renewable energy supply. The County Government commits to embedding energy in its agricultural, fisheries and enterprise programmes and to using energy investment to raise incomes and create jobs for women and youth.

Policy Statement 4.1: The County Government shall integrate energy planning into agricultural, fisheries and enterprise strategies and invest in renewable energy for productive use.

Policy Strategies:

- i. Embed energy access requirements and renewable energy specifications in all county-funded agricultural, fisheries, trade and enterprise development projects at the design and approval stage.
- ii. Implement a County Productive Use of Renewable Energy Programme targeting priority value chains, and track the installations, enterprises supported and jobs created.
- iii. Support the establishment of solar-powered cold storage and ice-making facilities at priority fish landing beaches on Lake Victoria and, more widely, solar cold-storage units across the wards (5 by 2028, 15 by 2030 and 30 by 2035).
- iv. Incorporate solar-powered water pumping and irrigation into county-funded water and agricultural investments, prioritizing smallholder farmers and community water schemes, with solar irrigation kits for 500 farmers by 2030 and 1,500 by 2035.
- v. Provide technical and financial support to micro, small and medium enterprises to adopt renewable and energy-efficient technologies, including energy audits (targeting 50 per cent of SMEs by 2035) and linkages to financiers.
- vi. Design incentives within the County's powers, such as fee waivers or reductions provided for in the County Finance Act and fast-tracked county permits, to attract private investment in productive use of renewable energy.

Policy Statement 4.2: The County Government shall position the Got Akara Industrial Park and other designated economic zones as energy-secure centres for value addition and light industry.

Policy Strategies:

- i. Integrate renewable energy infrastructure into the Got Akara Industrial Park master plan and into the park's investor offer.
- ii. Assess the energy needs of designated economic zones and plan for them in the County Energy Plan.
- iii. Link hydropower, solar and mini-grid supply options to anchor tenants in the Got Akara park, such as agro-processing and cold chain operators.

Policy Objective 5: To Promote Energy Efficiency and Conservation across Public and Private Sectors.

County-managed health facilities, markets, water supply systems, street lighting and administrative buildings consume growing amounts of electricity and fuel, yet energy audits, efficiency standards and performance monitoring are not systematically applied. Inefficient lighting, ageing equipment and poorly maintained water pumps raise operating costs and energy demand, while the opportunity to cut expenditure and improve reliability remains largely unrealized. The County Government commits to cutting energy waste in its own facilities, using procurement and lighting upgrades to lead by example, and helping households and enterprises to conserve energy and prepare for sustainable transport.

Policy Statement 5.1: The County Government shall reduce energy consumption in county-managed facilities through audits, efficient procurement and lighting upgrades.

Policy Strategies:

- i. Require energy management plans for county-managed facilities consistent with the Energy (Energy Management) Regulations, 2025, and track their implementation.
- ii. Conduct energy audits of county-managed facilities each year, starting with health facilities, offices, ECDE and vocational training centres and major markets, and implement the efficiency improvements identified, with 30 per cent of county public facilities audited by 2030 and 75 per cent by 2035.
- iii. Apply energy performance criteria in county procurement specifications, consistent with the Public Procurement and Asset Disposal Act, 2015, so that equipment and appliances bought with county funds meet the minimum energy performance standards set by EPRA and KEBS.
- iv. Replace inefficient lighting with LED and other high-efficiency technologies at priority county facilities.

- v. Engage energy service companies to finance and implement efficiency improvements at county facilities under performance contracts.
- vi. Install solar-powered street lighting in urban centres and market areas, starting with the highest-traffic and highest-risk locations.
- vii. Replace or retrofit inefficient and poorly maintained pumps at county water supply systems with efficient or solar-powered units.

Policy Statement 5.2: The County Government shall promote energy conservation awareness and behavioural change among households, learning institutions, enterprises and public institutions.

Policy Strategies:

- i. Integrate energy conservation messages into county public communication, including community radio, community health workers and market meetings.
- ii. Partner with technical and vocational institutions to offer short courses on energy-efficient practices for enterprises and facility managers.
- iii. Engage market associations, SACCOs and small enterprise networks in information sessions that show the cost savings from efficient equipment.
- iv. Introduce an annual County Energy Conservation Recognition Programme for households, businesses and public institutions that demonstrate measurable savings.

Policy Statement 5.3: The County Government shall prepare the County for electric mobility by assessing demand and facilitating charging infrastructure at suitable locations.

Policy Strategies:

- i. Conduct a county-level demand assessment for electric vehicles, including motorcycles and three-wheelers, and use it to guide investment.
- ii. Facilitate electric vehicle charging stations on county-owned land and public parking facilities at identified locations, in partnership with private investors who hold the required EPRA authorizations.
- iii. Engage Kenya Power and EPRA to confirm network capacity and the licensing requirements that apply at priority charging locations.

Policy Objective 6: To Strengthen Energy Financing and Resource Mobilization Mechanisms.

Energy development in Siaya County is financed through county budget allocations, national programmes and development partner initiatives, but financing is fragmented and project-driven. Energy-related expenditure is spread across infrastructure, environment, trade, agriculture and health budgets without a consolidated programme area, which limits visibility of total investment

and the County's ability to allocate resources against identified access gaps. Mechanisms to mobilize private, blended, climate and carbon finance remain underdeveloped, even though the transition from biomass and the expansion of renewable energy will require substantial capital. The County Government commits to consolidating energy investment, capitalizing a County Energy Fund and mobilizing external resources.

Policy Statement 6.1: The County Government shall consolidate energy sector financing and establish a County Energy Fund to pool and direct resources to priority energy investments.

Policy Strategies:

- i. Establish a dedicated, ring-fenced County Energy Programme budget line within the annual County Budget, consolidating energy-related expenditure currently scattered across departments, and increase the energy share of the development budget each year.
- ii. Track total energy sector financing from all sources and report it annually to the County Assembly, so that investment can be planned against access gaps.
- iii. Following a feasibility study in 2027, establish the County Energy Fund as a single county public fund, with energy efficiency and bio-energy windows, under section 116 of the Public Finance Management Act, 2012, with the approval of the County Assembly, and make regulations and operational guidelines covering fund governance, eligible expenditure, application procedures and accountability reporting.
- iv. Allocate seed capital to the County Energy Fund through the annual budget and attract additional resources from partners and investors.
- v. Maintain a pipeline of investment-ready projects for the County Energy Fund, screened against the priorities of this Policy.

Policy Statement 6.2: The County Government shall mobilize climate finance, development partner funding, blended finance and private investment for energy infrastructure and services.

Policy Strategies:

- i. Engage development partners and climate finance mechanisms, including FLLOCA and, through the National Treasury and national accredited entities, the Green Climate Fund, the Global Environment Facility and the Climate Investment Funds, with proposals drawn from the County's vulnerability profile and Climate Change Action Plan.
- ii. Develop and maintain a pipeline of bankable energy project proposals, with the feasibility, safeguards and financial analysis that funders require.
- iii. Design an investment incentive package for private energy investors, covering administrative support and county fees and charges within the County's control.
- iv. Mobilize blended finance, results-based financing and grant-funded concessional resources for energy infrastructure and services, including clean cooking and mini-grids, with any

county borrowing undertaken only in compliance with Article 212 of the Constitution and the Public Finance Management Act, 2012.

Policy Statement 6.3: The County Government shall tap carbon markets to finance renewable energy and clean cooking projects, while ensuring that communities share in the benefits.

Policy Strategies:

- i. Identify county energy projects that are eligible for carbon crediting, including clean cooking, biogas, reforestation and decentralized renewable energy projects.
- ii. Partner with accredited carbon credit aggregators and register eligible projects with the National Carbon Registry and obtain the required authorizations in accordance with the Climate Change (Carbon Markets) Regulations, 2024.
- iii. Establish a county mechanism for sharing carbon revenues equitably with communities that complements the statutory community benefit-sharing requirements, and channel the County's share through the County Energy Fund.

Policy Objective 7: To Institutionalize Energy Data Management, Monitoring and Reporting Systems.

The County Energy Plan household survey has provided a baseline, including the finding that 37 per cent of households are connected to the grid, but energy data collection in the County remains episodic. There is no county energy data system that regularly updates information on electricity access, cooking fuel use, decentralized renewable energy, productive use and public-facility consumption; data held by utilities, partners and private actors are not consolidated; and data are not consistently disaggregated at ward level. This limits targeting of underserved areas, equitable allocation of resources and the County's credibility with national planners and investors. The County Government commits to maintaining reliable, ward-level and disaggregated energy data and using it for planning and accountability.

Policy Statement 7.1: The County Government shall establish and maintain a county energy data and monitoring system that provides reliable, ward-level and disaggregated data for planning, reporting and investment.

Policy Strategies:

- i. Develop and operate a County Energy Management Information System that holds data on electricity access, cooking fuels, decentralized renewable energy, productive use and public-facility energy consumption, and update it at least annually.
- ii. Collect ward-disaggregated energy data each year through household and facility surveys and routine administrative data, and publish the results.
- iii. Integrate energy indicators into the County monitoring and evaluation system and CIDP reporting, and report on them in each annual review.

- iv. Use geospatial platforms, including the Energy Access Explorer, and the County Energy Plan baseline to plan electricity and clean cooking interventions.
- v. Conclude data-sharing agreements with Kenya Power, REREC, EPRA, private energy service providers and development partners, so that their connection, sales and project data feed the county system.
- vi. Train county planning, ICT and energy staff in GIS, data analysis, forecasting and performance tracking.

Policy Objective 8: To Mainstream Gender, Disability and Social Inclusion in Energy Planning and Implementation.

Energy poverty in Siaya County is not experienced equally. Women and girls undertake firewood collection in an estimated 90 per cent of cases and cooking in 95 per cent, while female-headed, low-income, older-person and disability-affected households and island communities face the deepest gaps in access to electricity and clean cooking. Connection charges, deposits, higher mini-grid tariffs and repossession practices exclude them; energy products, facilities and consultations are rarely accessible to persons with disabilities; and women, youth and persons with disabilities are under-represented in energy decision-making and in technical and business roles. The County Government commits to ensuring that energy development delivers equitable benefits for women, youth, persons with disabilities, older persons and marginalized groups.

Policy Statement 8.1: The County Government shall mainstream gender, disability and social inclusion into all energy sector planning, budgeting, implementation, monitoring and governance, in line with Articles 27, 54, 55 and 56 of the Constitution, the Persons with Disabilities Act, 2025 and the Gender Policy in Energy (2019).

Policy Strategies:

- i. Cut the unpaid cooking burden on women and girls by prioritizing subsidized and financed clean cooking options, including LPG, electric cooking, biogas and improved stoves, for female-headed, low-income and disability-affected households, delivered through women's groups, community health workers and local agents close to where people live.
- ii. Make connections and clean energy affordable to low-income households through targeted connection and appliance subsidies, flexible and group-based payment models that recognize chamas, and engagement with EPRA on island mini-grid tariffs and fair PAYGO repossession practices, and by targeting at least 40 per cent of new connections to female-headed households, consistent with the County Energy Plan.
- iii. Extend safe and reliable energy to the places women and girls depend on, including lighting for markets, landing sites and routes used after dark, and electrification of county health facilities, ECDE centres and water points, prioritizing underserved wards and island communities.

- iv. Support women-, youth- and disability-led energy enterprises with start-up finance, group equipment grants, business mentoring and linkages to county enterprise and credit programmes, and apply AGPO reservations in county energy procurement.
- v. Train and place women, youth and persons with disabilities as solar technicians, cookstove and LPG distributors and biogas builders through county vocational training centres, partner TVET institutions and apprenticeships with energy firms, with annual participation targets.
- vi. Make energy services and consultation accessible to persons with disabilities and older persons through universal design of county-supported energy infrastructure, public facilities and demonstration centres, and public participation forums held in accessible venues with sign-language interpretation, materials in Dholuo, Kiswahili and accessible formats, transport support and scheduling that accommodates care responsibilities.
- vii. Promote inclusive participation of women, youth, persons with disabilities (through OPDs), and island communities in county energy governance through CEPC co-opted membership and TWG representation, in accordance with INEP Regulations 6(3)–(5) and the constitutional two-thirds gender principle.
- viii. Protect women, girls and other vulnerable users on energy projects by requiring safeguards against gender-based violence, exploitation and harassment in contractor and project requirements, and by operating an accessible grievance desk for users and affected communities.
- ix. Track who benefits and correct course by collecting energy data disaggregated by sex, age, disability, income and location, tagging county energy budget allocations for gender and inclusion, and conducting annual gender and inclusion audits, with a Gender and Inclusion Officer in the County Energy Directorate responsible for acting on the findings.

Policy Objective 9: To Integrate Environmental Sustainability, Public Health and Climate Change Considerations into Energy Development.

Dependence on firewood and charcoal contributes to pressure on forest resources, land degradation and greenhouse gas emissions, and household air pollution from biomass combustion remains a significant health concern. The County also faces climate variability risks affecting agriculture, fisheries and water resources. Although the County has environmental and climate programmes, energy has not been consistently integrated into climate action planning, environmental conservation or health programmes, so the co-benefits of energy investment are not captured. The County Government commits to ensuring that energy projects are environmentally and socially sound, that biomass landscapes are restored, and that energy interventions are planned and reported as part of the County's climate and health agenda.

Policy Statement 9.1: The County Government shall subject energy projects to environmental and social safeguards and promote the restoration of landscapes that supply biomass.

Policy Strategies:

- i. Subject all county-funded energy projects to environmental and social impact screening and, where required, full assessment under the Environmental Management and Coordination Act before approval, and ensure compliance with the licence conditions issued by NEMA.
- ii. Establish energy woodlots and restore degraded and riparian landscapes with community groups and the Kenya Forest Service, to secure a sustainable biomass supply.

Policy Statement 9.2: The County Government shall integrate energy into climate action and public health planning and track the environmental and health outcomes of energy interventions.

Policy Strategies:

- i. Align county energy investments with the County Climate Change Action Plan and report them as climate actions, enabling the County to access climate finance.
- ii. Prioritize energy components, such as solar water pumping, efficient lighting and clean cooking, in the County's proposals to climate resilience programmes, including FLLOCA.
- iii. Track and report annually on the environmental and public health outcomes of county energy interventions, including biomass consumption, indoor air quality, emissions and forest cover.
- iv. Promote co-management of energy and environmental resources in landscapes where forestry, energy demand and biodiversity overlap, through joint programmes coordinated between the energy, environment and agriculture departments.

Policy Objective 10: To Promote Research, Innovation and Capacity Development in Renewable Energy and Clean Technologies.

Energy interventions in Siaya County have largely focused on deploying existing technologies, with limited emphasis on research, local technology adaptation and skills. Given the County's lake-based fisheries, dispersed rural settlements and strong agricultural activity, there is potential to pilot context-specific solutions in electric cooking, biogas, solar-powered cold storage and efficient agro-processing. Collaboration between the County, universities, technical institutions and innovators remains limited, lessons from implemented projects are not documented and shared, and communities have limited awareness of modern energy options. The County Government commits to building local skills, testing context-specific technologies and raising awareness so that the County can adopt and scale what works.

Policy Statement 10.1: The County Government shall promote research, innovation and demonstration of renewable energy and clean technologies suited to the County's context.

Policy Strategies:

- i. Use strategic sites such as the Got Akara Industrial Park as hubs for energy innovation, demonstration and testing of productive-use technologies.
- ii. Pilot and demonstrate technologies such as electric cooking, biogas, solar-powered cold storage and energy-efficient agro-processing, and evaluate them for cost, reliability and acceptability.
- iii. Collaborate with universities, technical institutions, innovators and private sector developers on clean energy solutions suited to lake-based, rural and agricultural settings.
- iv. Document, disseminate and scale lessons from implemented energy interventions through annual learning reviews and publications.

Policy Statement 10.2: The County Government shall build local skills and community awareness to support the adoption of modern energy solutions.

Policy Strategies:

- i. Collaborate with county vocational training centres and TVET institutions to develop and deliver customized energy training programmes, including solar installation, biogas construction, clean cooking and energy efficiency.
- ii. Establish energy demonstration centres that showcase renewable energy and clean cooking technologies to households, enterprises and institutions.
- iii. Hold community awareness campaigns across all six sub-counties on renewable energy, clean cooking, energy efficiency, biogas and productive use of energy.

CHAPTER FOUR: FRAMEWORK FOR IMPLEMENTING THE ENERGY POLICY

This chapter sets out the framework for implementing the Siaya County Energy Policy. It describes the coordination framework and the roles and responsibilities of institutions and stakeholders, presents the proposed organogram of the County Energy Directorate, and refers to the costed implementation plan in the Annex, which specifies strategies, expected outputs, key performance indicators, timeframes, estimated costs, funding sources and responsible parties.

4.1. Coordination Framework and Administrative Mechanisms

The implementation of this Policy will adopt a coordinated, multi-sectoral approach integrating the efforts of county government departments, national government institutions, development partners, the private sector, civil society and the communities of Siaya County. Given the cross-cutting nature of energy as a development enabler, effective coordination is essential to prevent duplication, align resources and ensure interventions are mutually reinforcing across all sectors.

The County Energy Directorate shall serve as the lead coordination body for energy policy implementation, supported by the County Energy Planning Committee (CEPC) as the principal intergovernmental and cross-sectoral platform.

Table 4.1: Roles and Responsibilities of Institutions and Stakeholders in Policy Implementation

Institution / Stakeholder	Responsibilities
Siaya County Government (Governor's Office and County Executive Committee)	• Provide overall political leadership and accountability for energy policy implementation. • Approve annual energy sector work plans, budgets and resource allocations. • Mobilize resources from national, regional and international partners. • Ensure cross-sectoral integration of energy across county development programmes.
County Executive Committee Member (CECM) — Department responsible for Energy	• Provide executive oversight for the Energy Policy and County Energy Plan. • Champion intergovernmental and multi-stakeholder coordination on energy matters. • Report on energy sector performance to the County Executive Committee and County Assembly.
Chief Officer — Energy	• Provide technical leadership and administrative oversight of the County Energy Directorate. • Coordinate implementation of the County Energy Plan and energy policy strategies. • Represent the County Energy Directorate in intergovernmental and stakeholder forums.
County Energy Directorate	• Lead coordination body for all energy policy implementation activities. • Coordinate county energy planning and guide sector development within the County's constitutional and statutory mandate. • Convene and service the County Energy Planning Committee. • Record and track energy projects implemented in the County by national agencies and non-state actors, using information they share with the County. • Manage the County energy data system and produce annual sector performance reports.
County Treasury and Economic Planning	• Allocate budget for energy policy implementation. • Support establishment and operationalization of the County Energy Fund under the Public Finance Management Act, 2012. • Mainstream energy into CIDP, ADP and Medium-Term Expenditure Framework.
Other County Departments (Health, Agriculture, Water, Environment, Trade, Infrastructure, Education)	• Collaborate with County Energy Directorate in cross-sectoral planning and implementation. • Implement energy components of sectoral programmes within their mandates. • Provide sector energy data to the County Energy Directorate.

Institution / Stakeholder	Responsibilities
	• Participate in the County Energy Planning Committee as relevant members.
County Assembly of Siaya	• Provide legislative oversight and accountability for energy sector programmes. • Enact county energy legislation within the County’s competence and approve the County Energy Plan and the County Energy Fund. • Approve and appropriate the county budget for energy programmes.
County Energy Planning Committee (CEPC)	• Structured platform for integrated energy planning and investment prioritization (per INEP Regulations). • Prepare, monitor and periodically review the County Energy Plan and prepare annual implementation reports (Reg. 6(2), INEP Regulations, 2025). • Coordinate cross-sectoral and intergovernmental energy planning to avoid duplication.
Communities of Siaya County	• Participate in public participation processes for energy policy and planning. • Champion energy sector programmes and provide community-level accountability. • Participate in community-based energy initiatives (clean cooking, biogas, PURE).
Ministry of Energy and Petroleum	• Formulate and implement national energy policy and provide overall direction. • Coordinate integrated national energy planning through the INEP Framework. • Provide national policy direction on the development of energy resources.
REREC	• Oversee rural electrification and mini-grid deployment programmes. • Develop and update rural electrification master plan with County Government. • Support establishment of energy demonstration centres in the County.
EPRA	• Regulate generation, distribution, supply and use of electricity and petroleum. • License and regulate solar PV technicians and contractors and enforce energy regulations (including net-metering and solar water heating), working with KEBS, which sets and enforces product standards. • Administer licensing for energy generation, distribution and supply.
KETRACO	• Plan, build, operate and maintain high-voltage transmission lines and substations. • Secure wayleaves and land access through the National Land Commission and engage the County Government on community engagement for transmission projects.
Kenya Power (KPLC)	• Build, operate and maintain the electricity distribution network.

Institution / Stakeholder	Responsibilities
	• Implement last-mile connections and grid densification in Siaya County.
Kenya Bureau of Standards (KEBS)	• Set and enforce product standards, including for solar products, electrical appliances and biogas systems. • Support county market surveillance and consumer awareness on quality-verified products.
Kenya Forest Service (KFS)	• License and regulate charcoal production, transport and trade under national law. • Partner with the County Government on agroforestry, woodlots and sustainable biomass management. • Share charcoal and forest-resource data with the County Energy Directorate.
National Environment Management Authority (NEMA)	• Review environmental and social impact assessments and issue licences and approvals for energy projects. • Enforce environmental compliance and support safeguards in county-funded energy projects.
National Land Commission (NLC)	• Advise and support the County on public-land management and land-use planning for energy infrastructure, including sites for substations, renewable energy projects and energy facilities. • Facilitate land acquisition processes where required and support the resolution of land-related disputes in accordance with its mandate
Kenya Electricity Generating Company (KenGen)	• Provide technical support and explore opportunities for renewable electricity generation, including hydropower, geothermal, solar and other viable technologies • Assess potential energy resources and investment opportunities • Support feasibility studies, technical capacity-building and partnerships for suitable projects in Siaya County
Nuclear Power and Energy Agency (NuPEA)	• Provide accurate information and public education on nuclear energy • Support energy-sector research and capacity-building • Advise on nuclear energy developments where relevant to the County's long-term energy planning, including the proposed nuclear power programme
Water Resources Authority (WRA)	• Provide water-resource data and technical guidance for energy projects dependent on water resources, including hydropower and water-pumping systems.

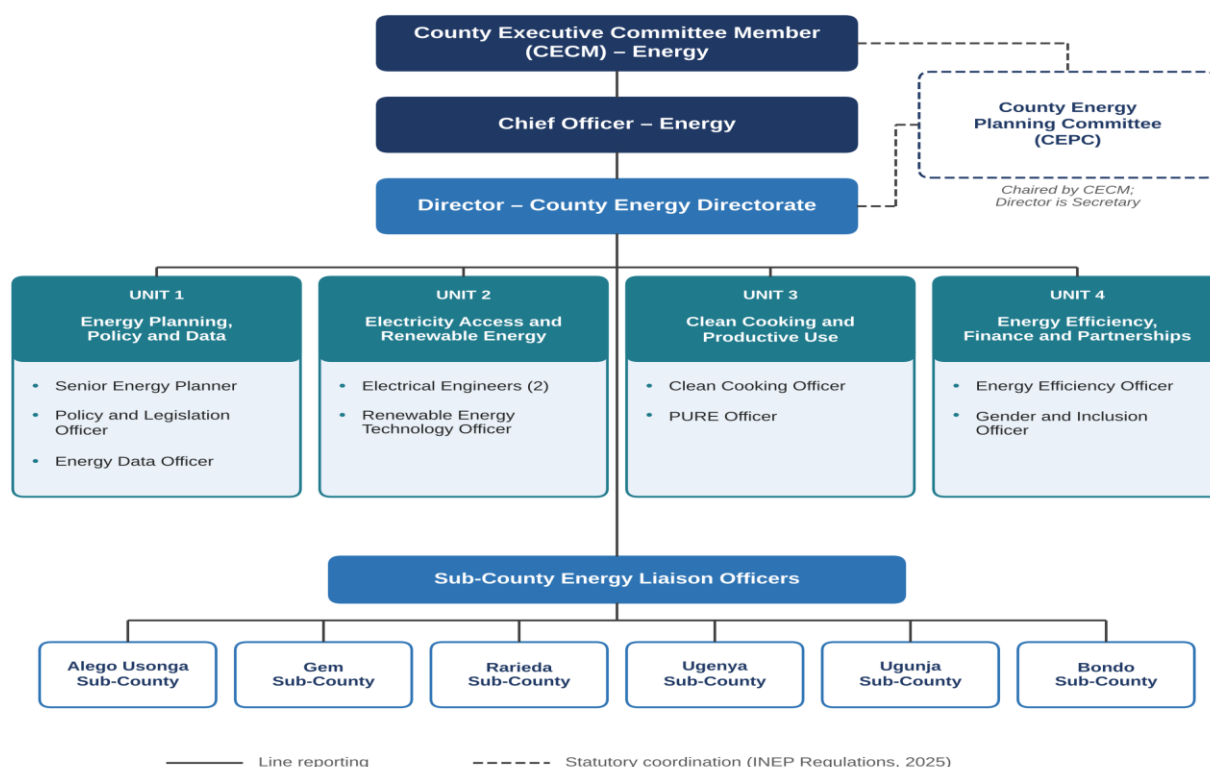
Institution / Stakeholder	Responsibilities
	• Support assessment of water availability, abstraction requirements, catchment protection and environmental sustainability to ensure that energy development does not compromise water-resource management
Development Partners and International Organizations	• Provide financial and technical support for energy policy implementation. • Facilitate access to climate finance, green bonds and concessional funding. • Support capacity building, research and innovation in the County energy sector.
Private Sector (ESCOs, Investors, Energy Service Providers, Financial Institutions)	• Mobilize private capital for energy projects and programmes. • Deliver energy services including solar, clean cooking and PURE technologies. • Participate in PPP arrangements and county energy investment frameworks.
Civil Society and Community-Based Organizations	• Advocate for communities in energy planning and implementation processes. • Monitor energy sector activities for transparency and good governance. • Implement community-level energy awareness and behaviour change programmes.
Research and Academic Institutions (Universities, TVETs)	• Conduct research and support innovation for county energy challenges. • Provide training and capacity building for staff, technicians and entrepreneurs. • Document and disseminate lessons from county energy interventions.

4.2. Proposed Organogram of the County Energy Directorate

The County Government of Siaya currently does not have a fully operational and dedicated energy department; the energy function is embedded within a broader departmental mandate with limited dedicated staffing. Figure 4.1 presents the proposed structure of the County Energy Directorate, which the County will establish progressively as the energy sector matures, budget space grows and the County Energy Fund becomes operational, with recruitment phased to match available resources.

The structure is designed to be proportionate to the size of Siaya County, comparable to peer counties, and sufficient to discharge the energy mandate under the Constitution of Kenya, 2010 and the Energy Act, 2019 across the six sub-counties of Alego Usonga, Bondo, Gem, Rarieda, Ugenya and Ugunja.

Figure 4.1: Proposed Organogram of the Siaya County Energy Directorate



4.3. Implementation Plan

The costed implementation plan, which translates the policy strategies in Chapter 3 into time-bound actions, is presented in the Annex. For each strategy it specifies the expected output, key performance indicator, implementation timeframe, estimated cost in Kenya Shillings, funding sources and the lead responsible party. The plan covers the Policy period of 2026 to 2035 and shall be the primary instrument for annual work planning, budgeting, monitoring and reporting.

CHAPTER FIVE: MONITORING, EVALUATION, LEARNING AND REPORTING

5.0. Overview

This Chapter provides the framework for monitoring, evaluation, learning, and reporting for implementation of the Siaya County Energy Policy. The framework is intended to support effective tracking of progress, enhance accountability, promote evidence-based decision-making, and facilitate continuous learning and improvement within the energy sector. It also provides a basis for aligning county-level monitoring and reporting with national systems and development frameworks.

5.1. Monitoring and Evaluation Framework

Effective implementation of the Siaya County Energy Policy will require a robust monitoring and evaluation framework to track progress, assess performance, and support informed decision-making within the energy sector. The framework shall provide mechanisms for measuring implementation of policy interventions, identifying challenges and opportunities, and assessing outcomes and impacts of energy programmes and projects within the County.

Monitoring and evaluation processes shall be integrated into existing county planning, monitoring, and reporting systems, including the County Integrated Monitoring and Evaluation System (CIMES), the CIDP, ADPs, and other relevant sector frameworks. The framework shall also align with national energy planning and reporting systems, including the Integrated National Energy Planning (INEP) framework and other national monitoring requirements.

The County Government shall establish and operationalize a results-based monitoring and evaluation system anchored on clearly defined indicators, baselines, targets, and reporting mechanisms aligned to the objectives of this Policy and the County Energy Plan. Monitoring activities shall include regular data collection, analysis, reporting, and review of implementation progress across the energy sector.

Periodic evaluations shall also be undertaken to assess the relevance, efficiency, effectiveness, impact, and sustainability of policy interventions. Evaluation findings shall inform planning, budgeting, programme improvement, and future policy review processes.

An independent mid-term evaluation shall be commissioned in 2030 and an end-term evaluation in 2035, in step with the County Energy Plan. Each shall draw on the baselines and targets in the CEP Master Target Register, the results framework in Table 5.1, and the indicators in the Implementation Plan.

The results framework in Table 5.1 provides the outcome indicators, baselines, targets and data sources against which the Policy will be monitored. The indicators and targets are those of the Master Target Register in the County Energy Plan (CEP, Table 63), with their CEP codes shown in brackets, and a small number of Policy-level indicators. The framework complements the output indicators in the Annex and is the basis for the independent mid-term and end-term evaluations.

Table 5.1: Results Framework for the Siaya County Energy Policy

Objective	Outcome indicator (CEP ref.)	Baseline	2028	2030	2035	Data source and frequency	Responsible
1 Governance	CEPC established with quarterly meetings (G1)	Not established	Established (2026/27)	4 meetings a year	4 meetings a year	CEPC minutes; quarterly	County Energy Directorate
1 Governance	Annual CEP report submitted by 31 July (G2)	First due 31 July 2027	100% on time	100% on time	100% on time	Submission records; annual	County Energy Directorate
1 Governance	County Energy Directorate established and technical posts filled	Not in place	Established	Posts filled	Fully staffed	Public Service Board records; annual	County Energy Directorate
2 Electricity access	Households with electricity access (E1)	37.6% (Feb 2026)	75%	100%	100%	KPLC and REREC data; household survey; annual	County Energy Directorate with KPLC and REREC
2 Electricity access	Households on solar home systems (E2)	5.0%	7.0%	9.0%	Residual off grid	Household survey; annual	County Energy Directorate with REREC
2 Electricity access	Households on mini grids (E3)	0.5%	2.0%	5.0%	Island households served	EPRA and REREC records; annual	County Energy Directorate
2 Electricity access	Health facilities (50) and learning institutions (302) electrified (E4, E5)	0 of 352	352 of 352	Maintained	Maintained	Facility survey; annual	County Energy Directorate with Health and Education
2 Electricity access	Water points solarised or hybridised (E6)	0 of 403	80 (2027)	200	403	Water department records; annual	County Energy Directorate with Water
3 Clean cooking	Households using three-stone fires (C1)	73%	45%	18%	0%	Household survey; annual	County Energy Directorate
3 Clean cooking	Households using clean fuels as primary fuel (C2)	6%	10.8%	22.6%	50%	Household survey; annual	County Energy Directorate
3 Clean cooking	Households using LPG as primary fuel (C3)	6%	8.5%	16%	Set at 3-year review	Household survey; annual	County Energy Directorate
3 Clean cooking	Wards with an LPG refill point (C4)	4 towns	30	30	30	Trade permit records; annual	Trade with County Energy Directorate

Objective	Outcome indicator (CEP ref.)	Baseline	2028	2030	2035	Data source and frequency	Responsible
3 Clean cooking	Boarding schools using clean institutional cooking (C5)	To be established (Year 1)	25%	50%	Set at 3-year review	School survey; annual	County Energy Directorate with Education
3 Clean cooking	Public health facilities free of open-fire cooking (C6)	To be established (Year 1)	50%	100%	100%	Facility survey; annual	County Energy Directorate with Health
3 Clean cooking	Household biodigesters operational (C7)	138 (2025)	500 (2027)	2,000	3,000	Programme records; annual	County Energy Directorate with Agriculture
4 Productive use	Farmers with solar irrigation kits (P1)	0	200 (2027)	500	1,500	Programme records; annual	County Energy Directorate with Agriculture
4 Productive use	Solar cold-storage units (P2)	0	5	15	30	Fisheries and Trade records; annual	County Energy Directorate with Fisheries and Trade
4 Productive use	Small hydropower in operation (P4)	0 MW	Lihanda feasibility complete	ESIA and financing secured	3.34 MW	Project records; annual	County Energy Directorate
5 Energy efficiency	County public facilities with energy audits (F1)	Under 5%	15%	30%	75%	Audit reports; annual	County Energy Directorate
5 Energy efficiency	SMEs with energy audits (F2)	10%	15%	25%	50%	Audit reports; annual	County Energy Directorate with Trade
5 Energy efficiency	Grid-connected households using LED lighting (F3)	56%	65%	75%	90%	Household survey; annual	County Energy Directorate
5 Energy efficiency	Level 4–5 hospitals with solar water heating (F4)	0%	30%	60%	100%	Facility survey; annual	County Energy Directorate with Health
6 Financing	County Energy Fund operational (G3)	No fund	Feasibility complete; law enacted	Disbursing	Disbursing	Fund records; annual	County Treasury with County Energy Directorate
6 Financing	Climate, partner and private finance mobilized for energy (KSh)	To be established (Year 1)	Set at baseline	Set at baseline	Set at baseline	Project Register; annual	County Energy Directorate

Objective	Outcome indicator (CEP ref.)	Baseline	2028	2030	2035	Data source and frequency	Responsible
7 Data	Wards with annually updated energy data	0%	100%	100%	100%	EMIS; annual	County Energy Directorate
8 Inclusion	Female-headed households among new connections (E7)	Gap: 20.5% vs 29.2%	40%	40%	Gap closed	KPLC and REREC data; annual	County Energy Directorate with Gender
8 Inclusion	Women and PWDs among project beneficiaries (G4)	Not tracked	50% women; 3% PWD	50% women; 5% PWD	50% women; 10% PWD	Project reports; annual	County Energy Directorate with Gender and Social Services
8 Inclusion	Share of county energy procurement under AGPO	Not tracked	At least 30%	At least 30%	At least 30%	Procurement records; annual	Treasury with County Energy Directorate
9 Environment and climate	Cooking-related GHG emissions, % reduction vs 2025 (C8)	Baseline report in Year 1	Baseline report	15%	30%	Emissions inventory; annual	County Energy Directorate with Environment
9 Environment and climate	County-funded energy projects with completed ESIA screening	Not tracked	100%	100%	100%	NEMA and project files; annual	Directorate with Environment
10 Research and skills	Artisans trained in cookstove fabrication, biodigester installation and briquetting	0			At least 200	Training records; annual	County Energy Directorate with Education

5.2. Data Management and Reporting

Reliable and timely data is critical for effective implementation, monitoring, and reporting of energy sector interventions. The County Government shall strengthen county energy data and information systems to support evidence-based planning, coordination, and decision-making.

The County Government shall promote development and maintenance of integrated energy data systems, including geospatial and sectoral data, in collaboration with national institutions, utilities, and other stakeholders. Efforts shall also be made to strengthen data sharing, infrastructure mapping, energy demand analysis, and periodic updating of energy sector information.

Standardized data collection, management, and reporting procedures shall be promoted to enhance consistency, reliability, and comparability of energy data across the County. The County Government shall prepare and disseminate periodic reports on implementation of the Policy.

5.3. Learning and Knowledge Management

Continuous learning and knowledge management are essential for improving implementation of the Policy and supporting innovation within the energy sector. The County Government shall promote documentation, dissemination, and sharing of lessons learned, best practices, innovations, and experiences arising from implementation of energy programmes and projects.

Knowledge sharing and collaboration shall be strengthened among county departments, national institutions, private sector actors, civil society organizations, development partners, academic institutions, and local communities. The County Government shall also support capacity building, technical exchange, peer learning, and institutional strengthening to enhance energy planning, implementation, and sector coordination within the County.

5.4. Reporting and Accountability

Transparent and timely reporting shall be promoted to strengthen accountability and oversight in implementation of the Policy. The County Government shall establish clear reporting structures and responsibilities for tracking implementation progress, utilization of resources, and achievement of policy objectives.

Regular progress reports shall be prepared and submitted to relevant county leadership structures, including the County Executive Committee and County Assembly. Stakeholder participation shall also be encouraged in review and validation of implementation progress and sector performance.

The County Government shall further promote public access to information on energy sector programmes, projects, and achievements to strengthen transparency, public participation, and accountability in the sector.

The County Energy Directorate shall prepare an annual energy sector performance report drawing on the County Energy Project Register and the county energy data system. After approval by the County Energy Planning Committee, the report shall be submitted to the Cabinet Secretary responsible for energy by 31 July each year as the annual implementation report required under Regulations 10(c) and 14(3) of the Energy (Integrated National Energy Plan) Regulations, 2025, tabled with the County Executive Committee and the County Assembly, and published on the County website within 14 days of submission.

5.5. Policy Review and Continuous Improvement

The Siaya County Energy Policy shall be reviewed in step with the County Energy Plan, with a first review in FY 2028/29, the statutory five-year review in FY 2030/31 and an end-term evaluation in 2035, and sooner where significant changes occur in the national legal or policy framework, to ensure continued relevance, responsiveness, and alignment with emerging county, national, and global energy priorities. Policy reviews shall consider implementation experiences, technological developments, sector performance, evolving energy needs, and lessons learned from implementation. The review process shall involve relevant stakeholders including county departments, national institutions, private sector actors, civil society organizations, development partners, and local communities. Updates to the Policy shall also be aligned with revisions of the County Energy Plan and other relevant planning and policy frameworks to ensure coherence and consistency in implementation of energy sector interventions within the County.

ANNEX: IMPLEMENTATION PLAN

The Implementation Plan below translates the policy strategies in Chapter 3 into time-bound, costed actions. The plan follows the structure of Chapter 3: it is organized by Policy Objective and Policy Statement, with one row for each Policy Strategy. Estimated costs are indicative and expressed in Kenya Shillings (millions) over the Policy period, 2026–2035.

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Policy Objective 1: To Strengthen Governance, Institutional and Coordination Frameworks for Effective Energy Sector Management within the County.						
<i>Policy Statement 1.1: The County Government shall establish and operationalize a dedicated County Energy Directorate with sufficient staffing, technical capacity and financial resources to anchor the devolved energy function.</i>						
Establish and operationalize the County Energy Directorate with adequate staffing and resources	County Energy Directorate established with defined functions and staffing	County Energy Directorate established; No. of technical staff recruited	2026	5	County Government	County Energy Directorate / Public Service
Recruit energy professionals and build capacity of county energy staff across the energy value chain	Staff trained on energy planning, PURE, EE&C, clean cooking, financing and data management	No. of staff trained; No. of training programmes conducted	2026–2035	3	County Government, Development Partners	County Energy Directorate
Ring-fence a dedicated budget line for the County Energy Directorate	Directorate budget line established and funded annually	Budget line established; % of Directorate budget released	2026–2035	—	County Government	Finance / County Energy Directorate
Designate energy focal persons in all relevant county departments	Energy focal persons appointed and active in all relevant departments	No. of departments with designated energy focal persons	2026	To be costed	County Government	County Secretary / County Energy Directorate

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Leverage technical assistance from national agencies, development partners and research institutions	Technical assistance agreements in place and used	No. of technical assistance agreements; No. of technical assistance missions delivered	2026–2030	To be costed	County Government, Development Partners	County Energy Directorate
<i>Policy Statement 1.2: The County Government shall institute formal coordination mechanisms to ensure integrated energy planning and accountability across county departments, national institutions and non-state actors.</i>						
Constitute and operationalize the County Energy Planning Committee (CEPC)	CEPC constituted and meeting quarterly	No. of CEPC meetings held per year	2026	1	County Government	County Energy Directorate
Hold semi-annual inter-departmental energy coordination meetings	Semi-annual coordination meetings held with recorded resolutions	No. of coordination meetings held; % of resolutions implemented	2026–2035	To be costed	County Government	County Energy Directorate
Conclude intergovernmental coordination protocols with national energy institutions	Intergovernmental coordination protocols concluded and operational	No. of coordination protocols concluded	2026	1	County Government	County Energy Directorate
Adopt a county energy PPP procedure and structure the first priority PPPs	County PPP procedure adopted; first priority energy PPPs structured	PPP procedure in place; No. of energy PPP agreements concluded	2026–2030	2	County Government, Development Partners	County Energy Directorate / County Secretary

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Institutionalize an annual Siaya County Energy Forum	Annual energy forum held	No. of forums held; No. of stakeholders engaged	2026–2035	1	County Government, Development Partners	County Energy Directorate
<i>Policy Statement 1.3: The County Government shall coordinate energy investments across all actors, prevent duplication and align county law, plans and budgets with national energy legislation.</i>						
Establish and maintain a County Energy Project Register	County Energy Project Register operational and updated quarterly	Register operational; % of known energy projects recorded	2026–2027	To be costed	County Government, Development Partners	County Energy Directorate
Publish an annual consolidated County Energy Sector Report	Annual County Energy Sector Report published	No. of annual reports published	2027–2035	To be costed	County Government	County Energy Directorate
Formulate and enact county energy legislation and guidelines	County Energy Bill and associated regulations developed and approved	No. of county energy legislative instruments enacted	2026–2027	3	County Government, Development Partners	County Energy Directorate / County Attorney
Review and align county policies with national energy legislation and the National Energy Policy 2025–2034	County policies reviewed and aligned	No. of policies reviewed and aligned	2026	2	County Government, Development Partners	County Energy Directorate / County Attorney
Mainstream energy into CIDP, ADP and sector budgets	Energy mainstreamed into CIDP, ADP and sector budgets	No. of departments with energy-integrated plans and budgets	2026–2035	2	County Government, Development Partners	All Departments

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Review the County Energy Plan at the intervals required by the INEP Regulations and report annually	County Energy Plan reviewed on schedule and approved; annual implementation reports produced	No. of CEP reviews; No. of annual reports	2026–2035	3	County Government	County Energy Directorate
Policy Objective 2: To Facilitate Inclusive and Affordable Access to Electricity within the County Mandate.						
<i>Policy Statement 2.1: The County Government shall identify, prioritize and advocate for electricity access interventions that reach underserved and unserved households, public facilities and enterprises, in collaboration with national electrification agencies.</i>						
Develop and maintain a ward-disaggregated County Electricity Access Register	Electricity access register operational and updated annually	Register operational; % of wards with updated access data	2026–2027	2	County Government	County Energy Directorate
Align national electrification programmes with county priorities through joint planning with REREC and Kenya Power	County priority areas registered in national electrification programmes	No. of priority areas registered; No. of additional connections facilitated	2026–2035	5	County Government, REREC, KPLC	County Energy Directorate
Electrify county-managed health facilities, ECDE centres, vocational training centres, markets and water supply systems	County-managed public facilities electrified on a phased basis	No. of county facilities electrified (grid or solar); % of county facilities with reliable power	2026–2028	To be costed	County Government, REREC, Development Partners	County Energy Directorate / Health / Education / Water

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Support subsidized and financed last-mile connections for eligible low-income households and businesses	Subsidized and financed connection support operational	No. of households and businesses connected with county support (disaggregated)	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Social Services
Report and advocate action on electricity reliability hotspots with Kenya Power	Fault hotspots reported and addressed	No. of hotspots reported; % resolved; No. of institutions reducing diesel backup	2026–2035	To be costed	County Government	County Energy Directorate
Streamline county approvals and pursue local benefit-sharing for electricity infrastructure	Streamlined county approval procedures applied to electricity projects	Average time to issue county permits for electricity projects; No. of benefit-sharing agreements concluded	2027–2030	To be costed	County Government	County Energy Directorate / Lands / Physical Planning
<i>Policy Statement 2.2: The County Government shall coordinate and support the deployment of solar mini-grids, solar home systems and other decentralized renewable energy solutions in off-grid, island and lakeshore communities.</i>						
Identify and prioritize additional off-grid island and lakeshore sites for mini-grids with REREC	Priority off-grid sites identified and mini-grids under development	No. of priority sites identified; No. of mini-grids commissioned	2026–2030	To be costed	County Government, REREC, Development Partners	County Energy Directorate
Connect anchor loads in off-grid areas to mini-grids or standalone solar	Anchor loads in off-grid areas connected	No. of anchor loads connected in off-grid areas	2026–2030	To be costed	County Government, Development Partners	County Energy Directorate / Health / Education

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Engage EPRA-authorized PAYGO solar providers to extend coverage to priority wards	Memoranda of understanding with PAYGO providers in place	No. of PAYGO providers engaged; No. of households served in priority wards	2027–2035	To be costed	County Government, Private Sector	County Energy Directorate
Train county staff and community technicians in solar and mini-grid operation and maintenance	County staff and community technicians trained and certified	No. of technicians trained and certified (disaggregated by sex)	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Education
Policy Statement 2.3: The County Government shall promote a quality-assured solar market and use county procurement and building standards to expand solar deployment in public institutions.						
Work with EPRA and KEBS to strengthen solar market oversight within the County	Solar product quality oversight strengthened through joint action with EPRA and KEBS	No. of joint market inspections held; No. of substandard products reported and acted on	2026–2035	1	County Government, EPRA	County Energy Directorate
Aggregate public-institution solar demand and procure through consolidated tenders	Consolidated solar procurement implemented; public institutions electrified via solar	Procurement approach adopted; No. of public institutions electrified via solar	2026–2028	3	County Government	County Energy Directorate / Finance
Mainstream solar-readiness provisions into county public building standards	County building specifications updated to include solar-readiness	No. of new county buildings constructed with solar-readiness provisions	2027	1	County Government	County Energy Directorate / Infrastructure

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Apply solar water heating requirements in building approvals and install systems at county facilities	Solar water heating systems installed in eligible facilities	No. of facilities with SWH systems installed; kWh saved per year	2027–2032	40	County Government, Development Partners	County Energy Directorate / Health / Education
<i>Policy Statement 2.4: The County Government shall facilitate the development of electricity infrastructure and of the County’s hydropower and wind resources in coordination with national institutions and project proponents.</i>						
Commission county hydropower inventory and support the Ndanu Falls project	Hydropower inventory completed; county facilitation of the Ndanu Falls project in place	Hydropower inventory in place; county permits and engagement support delivered	2027–2029	8	County Government, Development Partners	County Energy Directorate
Map and develop a ward-level county renewable energy resource database	County energy resource database developed	Database operational; No. of wards mapped	2026–2027	3	County Government, Development Partners	County Energy Directorate
Pilot hybrid solar–wind systems at lakeshore sites in Bondo and Rarieda	Hybrid solar–wind pilot sites assessed and developed	No. of sites measured; No. of hybrid systems installed	2028–2030	To be costed	County Government, REREC, Development Partners	County Energy Directorate
Set siting criteria for small-scale wind installations and build staff capacity to assess proposals	Siting criteria adopted in spatial plans; staff trained	Siting criteria adopted; No. of staff trained	2027	To be costed	County Government	County Energy Directorate / Physical Planning

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Coordinate with national utilities on substation and line capacity for growing urban demand	Joint infrastructure plan for growing urban demand agreed	No. of joint planning meetings; No. of capacity upgrades agreed	2026–2030	To be costed	County Government	County Energy Directorate / Physical Planning
Engage NuPEA and the national government on public participation and benefit-sharing in any nuclear siting	County representation and community engagement commitments secured	No. of engagements held; No. of commitments secured	2026–2035	To be costed	County Government	County Energy Directorate / County Attorney
Policy Objective 3: To Promote Transition to Clean, Efficient and Sustainable Cooking Solutions.						
<i>Policy Statement 3.1: The County Government shall implement a County Clean Cooking Programme, aligned with the Kenya National Cooking Transition Strategy 2024–2028, with measurable annual targets for the adoption of clean cooking solutions.</i>						
Adopt and implement a County Clean Cooking Transition Plan aligned with the KNCTS	County Clean Cooking Transition Plan developed and implemented	Plan in place; % of households using three-stone fires (target: 18% by 2030; 0% by 2035); % using clean fuels as primary fuel (target: 22.6% by 2030; 50% by 2035)	2026–2027	2	County Government, Development Partners	County Energy Directorate
Implement clean cooking adoption programmes for households, MSMEs and institutions	Programmes implemented across all six sub-counties	No. of households and institutions adopting clean cooking; No. of improved stoves distributed	2026–2035	20	County Government, Development Partners	County Energy Directorate / Health

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Conduct ward-level clean cooking awareness and demonstration campaigns	Clean cooking campaigns delivered in all wards	No. of campaigns held; % of households reached	2026–2035	To be costed	County Government, Development Partners	County Energy Directorate / Health / Public Participation
Transition county-managed institutions from firewood to LPG, electric or biogas cooking	Phased institutional transition under way	No. of county institutions transitioned; % reduction in firewood use in transitioned institutions	2026–2032	To be costed	County Government, Development Partners	County Energy Directorate / Health / Education
Pilot consumer financing for clean cooking products with financial institutions and chamas	Consumer financing products for clean cooking piloted	No. of financing products piloted; No. of households financed (disaggregated)	2027–2030	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Finance
Streamline county permits for LPG, improved cookstove and biogas enterprises	Simplified county permitting for clean cooking enterprises in place	Average time to issue a county permit to a clean cooking enterprise; No. of enterprises permitted	2027	To be costed	County Government	County Energy Directorate / Trade
Facilitate last-mile LPG distribution expansion to rural and peri-urban areas	Last-mile LPG distribution networks expanded	No. of new LPG refill points established; No. of households accessing LPG	2026–2030	5	County Government, Private Sector	County Energy Directorate / Trade
Policy Statement 3.2: The County Government shall promote sustainable biomass production and use, within its mandate, to reduce unsustainable firewood and charcoal harvesting while the transition to clean cooking proceeds.						

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Support licensed charcoal producers to meet tree restoration commitments and verify licences before issuing county trade permits	Producer associations supported; county trade permits issued only to licensed dealers	No. of producer associations supported; No. of ha restored; % of charcoal dealers permitted with valid KFS licences	2026–2035	3	County Government	County Energy Directorate / Environment
Monitor charcoal production and supply flows and report annually	Annual charcoal monitoring reports produced	No. of annual charcoal monitoring reports	2026–2035	To be costed	County Government	County Energy Directorate / Environment
Increase county tree cover through agroforestry, woodlots and farm forestry	County tree cover increased	% increase in county tree cover	2026–2035	10	County Government, Development Partners, KFS	Dept. of Environment / Forestry
Map woody biomass stock, demand and net productivity annually	Annual biomass balance reports produced	No. of annual biomass mapping reports	2026–2035	4	County Government, Development Partners	County Energy Directorate / Environment
Promote improved biomass and efficient charcoal cookstoves as a transitional option	Improved stoves adopted by target households	No. of improved stoves sold or distributed; No. of local stove producers supported	2026–2030	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Trade

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Promote collection and transport of bioenergy feedstock to aggregation centres	Bioenergy aggregation centres established and supported	No. of aggregation centres established	2027–2030	8	County Government, Development Partners	County Energy Directorate / Agriculture
Policy Statement 3.3: The County Government shall promote biogas and waste-to-energy as clean cooking and energy pathways suited to the County’s livestock, agricultural and organic waste resources.						
Promote household and institutional biogas adoption through the County biogas extension programme	Biogas extension programme operational	No. of household biogas systems installed (target: 3,000 by 2035); No. of extension technicians trained	2027–2035	15	County Government, Development Partners	County Energy Directorate / Agriculture
Install demonstration biogas systems at county-managed institutions	Demonstration biogas systems operational	No. of demonstration biogas systems installed and functioning	2027–2031	To be costed	County Government, Development Partners	County Energy Directorate / Education / Health
Conduct feasibility studies for bioenergy potential	Feasibility study reports produced	No. of feasibility studies completed	2026–2028	6	County Government, Development Partners	County Energy Directorate
Quantify organic waste and introduce source segregation at markets and urban centres	Organic waste quantified; segregation in place at priority sites	Organic waste quantification report; No. of sites with segregation in place	2027–2029	To be costed	County Government, Development Partners	County Energy Directorate / Environment

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Pilot waste-to-energy installations at markets and landing beaches	Waste-to-energy pilots implemented	No. of WtE pilot installations; Volume of waste processed	2027–2029	5	County Government, Development Partners	County Energy Directorate / Environment
Structure waste-to-energy PPPs with clear terms for waste supply, land, permitting and offtake	Waste-to-energy PPP proposals structured and tendered	No. of WtE PPP proposals tendered	2028–2032	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Environment
Policy Statement 3.4: The County Government shall promote electric cooking as a complementary clean cooking pathway where electricity access, reliability and affordability allow.						
Pilot electric cooking at county public institutions	Electric cooking pilots implemented and evaluated	No. of institutions piloting e-cooking; Evidence report on performance	2028–2030	3	County Government, Development Partners	County Energy Directorate / Health
Engage suppliers, utilities and financiers on electric cooking appliances and awareness	Supplier and financier partnerships established; awareness campaigns delivered	No. of partnerships established; No. of households reached by awareness	2028–2032	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate
Make electric or LPG cooking the default in new or newly electrified county facilities	Clean cooking systems installed as default in new facilities	% of new or newly electrified county facilities with clean cooking systems	2027–2035	To be costed	County Government	County Energy Directorate / Infrastructure
Policy Objective 4: To Enhance the Productive Uses of Renewable Energy across Key Economic Sectors.						

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
<i>Policy Statement 4.1: The County Government shall integrate energy planning into agricultural, fisheries and enterprise strategies and invest in renewable energy for productive use.</i>						
Embed energy requirements and renewable energy specifications in county-funded sector projects	Energy requirements built into sector project designs	% of county-funded sector projects with energy specifications	2026–2035	To be costed	County Government	County Energy Directorate / Agriculture / Trade / Fisheries
Develop and implement a County PURE Programme targeting priority value chains	PURE programme operational across priority value chains	No. of PURE installations; No. of enterprises benefiting; No. of jobs created	2027–2035	25	County Government, Development Partners, Private Sector	County Energy Directorate / Agriculture / Trade
Establish solar-powered cold storage and ice-making at priority fish landing beaches	Solar cold storage facilities established at priority landing beaches	No. of cold storage facilities established; Tonnes of post-harvest loss reduced	2027–2031	30	County Government, REREC, Development Partners, Private Sector	County Energy Directorate / Fisheries
Incorporate solar-powered water pumping and irrigation in county-funded investments	Solar pumping installed in county-funded water and irrigation schemes	No. of solar pumping and irrigation systems installed	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Water / Agriculture
Provide technical and financial support to MSMEs to adopt PURE technologies	County MSME energy support programme operational	No. of MSMEs supported; No. of energy audits conducted for enterprises	2027–2035	10	County Government, Development Partners	County Energy Directorate / Trade

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Design fiscal incentives and administrative support for private PURE investment	PURE investment facilitation measures in place	No. of private PURE investments facilitated; Value of private investment mobilized	2027	2	County Government	County Energy Directorate / Finance
Policy Statement 4.2: The County Government shall position the Got Akara Industrial Park and other designated economic zones as energy-secure centres for value addition and light industry.						
Integrate renewable energy infrastructure into the Got Akara Industrial Park master plan	Renewable energy component embedded in Got Akara master plan	Park master plan includes RE infrastructure; No. of enterprises using RE in the park	2026–2028	5	County Government, Development Partners, Private Sector	County Energy Directorate / Trade / Industrialization
Map and integrate energy needs of designated economic zones into the County Energy Plan	Energy demand of designated zones documented and planned for	No. of zones with energy needs assessed and planned for	2027	2	County Government	County Energy Directorate
Link renewable supply options to anchor tenants in the Got Akara Industrial Park	Supply arrangements for anchor tenants agreed	No. of anchor tenants with agreed renewable supply arrangements	2028–2032	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Trade
Policy Objective 5: To Promote Energy Efficiency and Conservation across Public and Private Sectors.						
Policy Statement 5.1: The County Government shall reduce energy consumption in county-managed facilities through audits, efficient procurement and lighting upgrades.						

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Require energy management plans for county facilities consistent with EMR 2025	County EE&C measures adopted and implemented	% of county facilities with energy management plans	2026–2027	2	County Government	County Energy Directorate
Conduct systematic energy audits of county-managed facilities	Energy audits completed and improvement plans developed	No. of facilities audited per year; kWh savings achieved	2026–2035	8	County Government, Development Partners	County Energy Directorate
Integrate MEPS and energy efficiency criteria into county procurement standards	County procurement policies updated with energy efficiency criteria	% of county procurements meeting MEPS; No. of energy-efficient replacements installed	2026–2027	1	County Government	County Energy Directorate / Finance
Transition county lighting systems to LED and high-efficiency technologies	LED lighting programme implemented at priority county facilities	No. of facilities retrofitted with LED; kWh saved per year	2026–2030	10	County Government, Development Partners, ESCOs	County Energy Directorate
Engage ESCOs to finance and implement efficiency improvements at county facilities	ESCO performance contracts in place at county facilities	No. of ESCO contracts; Value of energy cost savings achieved	2027–2035	0	ESCOs, Development Partners	County Energy Directorate
Adopt solar-powered street lighting across county urban centres and market areas	Solar street lighting installed at priority locations	No. of solar street lights installed; % of market centres with solar lighting	2026–2030	12	County Government, Development Partners	County Energy Directorate / Infrastructure

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Replace or retrofit inefficient pumps at county water supply systems	Efficient or solar-powered pumps installed at priority water systems	No. of pumping systems retrofitted; kWh saved per year	2027–2032	To be costed	County Government, Development Partners	County Energy Directorate / Water
<i>Policy Statement 5.2: The County Government shall promote energy conservation awareness and behavioural change among households, learning institutions, enterprises and public institutions.</i>						
Integrate energy conservation messages into county public communication	Energy conservation messages delivered through county channels	No. of conservation campaigns delivered; % of households reached	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Communications
Partner with technical and vocational institutions on energy efficiency short courses	Energy efficiency short courses offered	No. of courses delivered; No. of participants (disaggregated)	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Education
Engage market associations, SACCOs and enterprise networks in energy efficiency sessions	Energy efficiency sessions held with enterprise networks	No. of sessions held; No. of enterprises reached	2027–2035	To be costed	County Government	County Energy Directorate / Trade
Introduce an annual County Energy Conservation Recognition Programme	Annual recognition programme held	No. of recognition events held; No. of entities recognized	2028–2035	To be costed	County Government	County Energy Directorate

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Policy Statement 5.3: The County Government shall prepare the County for electric mobility by assessing demand and facilitating charging infrastructure at suitable locations.						
Conduct a county-level demand assessment for electric vehicles	EV demand assessment report produced	Assessment report produced and adopted	2027	1	County Government, Development Partners	County Energy Directorate / Transport
Develop EV charging infrastructure at identified county locations	EV charging stations established	No. of EV charging stations installed	2028–2032	5	County Government, Private Sector	County Energy Directorate / Infrastructure
Engage Kenya Power and EPRA on network capacity and licensing at charging locations	Network capacity and licensing procedures agreed for priority charging sites	No. of priority sites with agreed network capacity	2027–2030	To be costed	County Government	County Energy Directorate
Policy Objective 6: To Strengthen Energy Financing and Resource Mobilization Mechanisms.						
Policy Statement 6.1: The County Government shall consolidate energy sector financing and establish a County Energy Fund to pool and direct resources to priority energy investments.						
Increase county budgetary allocation for energy through a dedicated ring-fenced budget line	Dedicated energy budget line established and growing	% of development budget allocated to energy; Year-on-year increase in energy allocation	2026–2035	—	County Government	Finance / County Energy Directorate

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Track total energy sector financing from all sources and report annually	Annual energy financing report submitted to the County Assembly	No. of annual energy financing reports submitted; Total energy sector financing tracked from all sources	2026	2	County Government, Development Partners	County Energy Directorate / Finance
Establish the County Energy Fund and approve its regulations and operational guidelines	County Energy Fund Regulations and operational guidelines developed	Guidelines approved by County Assembly; Fund operational	2027–2028	2	County Government, Development Partners	County Energy Directorate / Finance / County Attorney
Allocate seed capital to the County Energy Fund and attract additional resources	County Energy Fund capitalized	Value of seed capital allocated; Value of additional resources mobilized	2028–2035	50	County Government, Development Partners, Private Sector	Finance / County Energy Directorate
Build and maintain an investment project pipeline for the County Energy Fund	Investment project pipeline maintained for the Fund	No. of investment-ready projects in the pipeline	2027–2035	2	County Government, Development Partners	County Energy Directorate
Policy Statement 6.2: The County Government shall mobilize climate finance, development partner funding, blended finance and private investment for energy infrastructure and services.						
Engage development partners and climate finance mechanisms (GCF, GEF, CIF, FLLOCA)	Climate finance and development partner resources mobilized	Value of climate finance and grants mobilized (KSh); No. of active donor partnerships	2026–2035	3	County Government, Development Partners	County Energy Directorate / Finance

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Develop and maintain a pipeline of bankable energy projects	Pipeline of investment-ready energy proposals maintained	No. of bankable project proposals developed; Value of investments facilitated	2026–2035	3	County Government, Development Partners	County Energy Directorate
Develop an Energy Incentives Framework to encourage private sector participation	Energy Incentives Framework developed and approved	Incentives Framework in place	2027	1	County Government, Development Partners	County Energy Directorate / Finance
Mobilize blended and results-based finance within the limits of the Public Finance Management Act, 2012	Blended and results-based financing agreements concluded	No. of blended or results-based financing agreements; Value mobilized (KSh)	2027–2035	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Finance
Policy Statement 6.3: The County Government shall tap carbon markets to finance renewable energy and clean cooking projects, while ensuring that communities share in the benefits.						
Develop a list of county energy projects eligible for carbon credit funding	Carbon-eligible project list developed	No. of projects identified as carbon-eligible	2026	0.5	County Government	County Energy Directorate
Partner with accredited carbon credit aggregators	Carbon credit partnerships established	No. of carbon credit aggregator partnerships; Volume of carbon credits issued	2027–2035	1	County Government, Private Sector	County Energy Directorate

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Develop a county mechanism for equitable sharing of carbon credit revenues	Carbon revenue-sharing mechanism aligned with statutory benefit-sharing requirements developed and implemented	Revenue sharing mechanism in place; Communities receiving carbon revenue benefits	2027	0.5	County Government	County Energy Directorate / Finance
Policy Objective 7: To Institutionalize Energy Data Management, Monitoring and Reporting Systems.						
<i>Policy Statement 7.1: The County Government shall establish and maintain a county energy data and monitoring system that provides reliable, ward-level and disaggregated data for planning, reporting and investment.</i>						
Develop and operate a County Energy Management Information System	County EMIS developed and operational	EMIS operational; No. of data updates per year	2026–2027	3	County Government, Development Partners	County Energy Directorate / ICT
Collect and publish ward-disaggregated energy data annually	County energy data system regularly updated	No. of data updates per year; % of wards with updated data	2026–2035	3	County Government, Development Partners	County Energy Directorate / ICT
Integrate energy indicators into County M&E frameworks and CIDP reporting	Energy indicators embedded in county M&E	No. of energy KPIs in county M&E system; Data reported in annual review	2026	0.5	County Government	County Energy Directorate / Planning
Leverage geospatial platforms (Energy Access Explorer) for evidence-based access planning	Geospatial energy planning tools adopted	Geospatial platform in use for county energy planning	2026–2027	1	County Government, Development Partners	County Energy Directorate / ICT

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Conclude data-sharing agreements with utilities, regulators, private providers and partners	Data-sharing agreements concluded and data received	No. of data-sharing agreements concluded; % of agreed data received on schedule	2026–2028	To be costed	County Government	County Energy Directorate
Train county staff in GIS, data analysis, forecasting and performance tracking	County staff trained in energy data analysis	No. of staff trained (disaggregated by sex)	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Planning / ICT
Policy Objective 8: To Mainstream Gender, Disability and Social Inclusion in Energy Planning and Implementation.						
<i>Policy Statement 8.1: The County Government shall mainstream gender, disability and social inclusion into all energy sector planning, budgeting, implementation, monitoring and governance, in line with Articles 27, 54, 55 and 56 of the Constitution, the Persons with Disabilities Act, 2025 and the Gender Policy in Energy (2019).</i>						
Prioritize subsidized and financed clean cooking for female-headed, low-income and disability-affected households, delivered through women's groups, community health workers and local agents	Clean cooking options delivered to target households through local distribution channels	No. of target households adopting clean cooking (disaggregated by sex of head, disability and income); % of target households using clean fuels as primary	2026–2035	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Gender / Social Services

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Establish targeted affordability and consumer protection measures for vulnerable energy users	Targeted subsidy and inclusive finance mechanisms operational for low-income, female-headed, PWD and island households	No. of vulnerable households supported (disaggregated); No. of consumer complaints resolved	2027–2035	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Social Services
Extend lighting and electricity to markets, landing sites, county health facilities, ECDE centres and water points in underserved wards and island communities	Priority public sites lit and electrified	No. of markets and landing sites with lighting; No. of facilities electrified in underserved wards	2027–2035	To be costed	County Government, REREC, Development Partners	County Energy Directorate / REREC / Public Works
Support women-, youth- and disability-led energy enterprises through start-up finance, equipment grants, mentoring and AGPO	Women-, youth- and disability-led energy enterprises financed and contracted	No. of enterprises supported (disaggregated); % of county energy procurement awarded under AGPO	2027–2035	13	County Government, Development Partners	County Energy Directorate / Gender / Trade / Finance
Train and place women, youth and PWDs in energy jobs through TVET and apprenticeships	Women, youth and PWDs trained and placed in the energy value chain	% of TVET energy trainees who are women, youth or PWDs; No. placed in jobs or apprenticeships	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Gender / Trade

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Make energy infrastructure, facilities and public participation accessible to PWDs and older persons	Universal design applied to county-supported energy infrastructure; accessible energy forums held	% of new county-supported energy installations meeting accessibility standards; % of energy forums meeting accessibility standards	2026–2035	To be costed	County Government, Development Partners	County Energy Directorate / Public Works / Social Services
Ensure representation of women, youth, PWDs/OPDs and island communities in county energy structures	Women, youth, PWDs and island communities represented on the CEPC and energy structures	% of CEPC members who are women; No. of PWD/OPD and island representatives	2026–2035	To be costed	County Government	County Energy Directorate / Gender
Apply safeguards against gender-based violence, exploitation and harassment in energy projects and operate accessible grievance desks	Safeguards in project requirements and grievance desks operating	% of projects with safeguards and a grievance mechanism; % of grievances resolved within set timelines	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Gender / Social Services
Collect disaggregated energy data, tag energy budgets for gender and inclusion, and conduct annual gender and inclusion audits	Disaggregated data published, budget lines tagged and audit findings acted on	No. of energy datasets disaggregated by sex, age and disability; % of energy budget tagged to GEDSI outcomes; % of audit recommendations implemented	2026–2035	1	County Government	County Energy Directorate / Finance / Gender
Policy Objective 9: To Integrate Environmental Sustainability, Public Health and Climate Change Considerations into Energy Development.						

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
<i>Policy Statement 9.1: The County Government shall subject energy projects to environmental and social safeguards and promote the restoration of landscapes that supply biomass.</i>						
Integrate environmental and social safeguards into all energy projects	ESIA compliance requirements enforced for energy projects	% of energy projects with completed ESIA's; No. of environmental compliance reviews	2026–2035	2	County Government, NEMA	County Energy Directorate / Environment
Promote energy woodlots and landscape restoration for sustainable biomass supply	Agroforestry and woodlot programmes implemented	No. of ha under agroforestry or energy woodlots established	2026–2035	8	County Government, Development Partners, KFS	Dept. of Environment / Agriculture
<i>Policy Statement 9.2: The County Government shall integrate energy into climate action and public health planning and track the environmental and health outcomes of energy interventions.</i>						
Align county energy investments with the County Climate Change Action Plan	Energy-climate alignment in place	No. of energy investments reported as climate actions; Climate finance accessed	2026	1	County Government, Development Partners	County Energy Directorate / Environment
Prioritize energy components in proposals to climate resilience programmes such as FLLOCA	Energy components included in climate resilience proposals	No. of climate resilience proposals with energy components; Value of energy components funded (KSh)	2026–2030	To be costed	County Government, Development Partners	County Energy Directorate / Environment
Monitor and report environmental and health impacts of energy use annually	Environmental and health impact monitoring operational	No. of indicators tracked; Annual monitoring reports produced	2027–2035	3	County Government	County Energy Directorate / Environment / Health

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Promote co-management of energy and environmental resources in overlapping landscapes	Joint landscape programmes under implementation	No. of joint landscape programmes; Area under co-managed restoration (ha)	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Environment / Agriculture
Policy Objective 10: To Promote Research, Innovation and Capacity Development in Renewable Energy and Clean Technologies.						
<i>Policy Statement 10.1: The County Government shall promote research, innovation and demonstration of renewable energy and clean technologies suited to the County's context.</i>						
Use the Got Akara Industrial Park as a hub for energy innovation and technology testing	Demonstration and testing facilities operating at the park	No. of technologies tested; No. of enterprises using demonstration facilities	2028–2032	To be costed	County Government, Development Partners, Private Sector	County Energy Directorate / Trade / Industrialization
Pilot and evaluate electric cooking, biogas, solar cold storage and efficient agro-processing technologies	Pilot and demonstration projects implemented and evaluated	No. of pilot projects implemented; No. of evaluation reports published	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate
Collaborate with universities, technical institutions, innovators and developers on context-specific solutions	Research and innovation partnerships established	No. of research and innovation partnerships; No. of joint projects	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate / Education

Strategy	Expected Output	Key Performance Indicator	Timeframe	Est. Cost (KSh million)	Funding Sources	Responsibility
Document and disseminate lessons from implemented energy interventions	Annual lessons-learned reports published and shared	No. of lessons-learned reports published	2027–2035	To be costed	County Government, Development Partners	County Energy Directorate
Policy Statement 10.2: The County Government shall build local skills and community awareness to support the adoption of modern energy solutions.						
Collaborate with TVET institutions to develop and implement customized energy training programmes	Energy training programmes developed and implemented in TVETs	No. of programmes developed; No. of trainees	2026–2028	10	County Government, Development Partners	County Energy Directorate / Education
Establish energy demonstration centres for renewable energy and clean cooking technologies	Energy centres established and operationalized	No. of energy centres established; No. of technologies demonstrated	2027–2030	15	County Government, REREC, Development Partners	County Energy Directorate
Hold community awareness campaigns on renewable energy, clean cooking, EE&C, biogas and PURE	Awareness campaigns conducted across all six sub-counties	No. of campaigns held; % of population reached	2026–2035	5	County Government, Development Partners	County Energy Directorate / Public Participation