



REPUBLIC OF THE GAMBIA

MINISTRY OF ENERGY

FINAL DRAFT

**National Energy Policy – Part II
(Strategies and Action Plan)
2015-2020**

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ABBREVIATIONS AND ACRONYMS

BOO	Build Own and Operate
BOT	Build Operate and Transfer
DCD	Department of Community Development
DOE	Department of Energy
DOF	Department of Forestry
DOSTIE	Department of State for Trade, Industry and Employment
ECOWAS	Economic Community of West African States
FIT	Feed-In- Tariff
GBA	Greater Banjul Area
GOTG	Government of The Gambia
GREC	Gambia Renewable Energy Centre
HFO	Heavy Fuel Oil
HSE	Health, Safety and Environment
IPP	Independent Power Producer
LPG	Liquefied Petroleum Gas
MSGBC	Treaty of Cooperation Between Mauritania, Senegal, Gambia, Guinea Bissau & Guinea Conakry
NAWEC	National Water and Electricity Company
NEC	National Energy Commission
NEP	National Energy Policy
OMVG	Organisation for the Development of The Gambia River Basin
PRSP	Poverty Reduction Strategy Paper
R&D	Research and Development
RE	Renewable Energy
RPTES	Regional Programme for the Traditional Energy Sector
SBU	Strategic Business Unit
T & D	Transmission and Distribution
UPDEA	Organisation of African Energy Producers
WEC	World Energy Council
WAPP	West African Power Pool
WGP	West African Gas Pipeline

National Energy Policy (Strategies and Action Plan) 2014-2018

1.0 INTRODUCTION

An adequate, reliable, affordable and efficient supply of energy is essential to support the country's continued socio-economic growth and development. With the rapidly expanding economy, a substantial increase in the energy supply is urgently needed to meet current demand and forestall major shortages in the future.

The in depth assessment of the Gambia's energy sector, undertaken in Part One of this National Energy Policy document, shows that the energy resource base of the country is limited and the supply of energy is unreliable and unsustainable. The electric power supply has, over the last three decades been grossly inadequate, inefficient, erratic and extremely unreliable, negatively impacting on investment and production. The over-reliance of the city and major urban centres on fuel wood and charcoal is destroying the country's forest resources and natural vegetation cover at an alarming rate, causing general environmental degradation.

Government's efforts in formulating this comprehensive National Energy Policy is intended to address the key issues in the Energy Sector and provide the framework for efficient utilisation and management of these resources, by avoiding over-dependence and depletion of the nation's finite energy resources.

2.0 POLICY FRAMEWORK

As part of Government's efforts to build a sound reliable and sustainable socio-economic infrastructure, this Policy is being introduced to provide the framework for the provision of an efficient, reliable and affordable energy supply to effectively support the socio-economic development of the country.

The National Energy Policy must be developed within the context of several recent regional and global energy policies and strategy frameworks such as but not limited to:

- The ECOWAS White Paper on Increasing Access to Energy Services in Peri-Urban and Rural Areas
- The UN Sustainable Energy for All (SE4ALL) Initiative
- The WAPP Revised Master Plan for integrated regional power market
- UEMOA-IREN initiative for sustainable energies
- CILSS initiative on Solar PV and traditional Biomass

To accomplish the desired results, the Energy Policy, strategy and programmes should be coordinated and implemented within the framework of the national economic and social policies. In this regard, the National Energy Policy will be consistent with the overall development policy objectives of Government, as outlined in the Vision 2020 and the Program for Accelerated Growth and Employment (PAGE).

On a good day peak production capacity nationwide is about 50.0MW, whereas demand exceeds 100MW with a significant pent-up demand. The current electricity demand is projected to double in five years given that the current electrification rate is about 40 percent.

3.0 GUIDING PRINCIPLES

The following issues would guide the formulation of the Energy Policy:

- 3.1. Providing a system of energy supply that is cost-effective and dependable;
- 3.2. Improved energy security through sub-regional energy trade and cooperation; as stipulated in the WAPP Revised Master Plan
- 3.3. Recognition of the private sector as the engine of growth;
- 3.4. Legislation and regulatory procedures that would allow public and private sector participation;
- 3.5. Open up for competition in order to ensure effective and efficient supply, of electricity;
- 3.6. Provide attractive incentives to encourage private sector investors;
- 3.7. Continued support for hydrocarbon exploration and exploitation of oil and gas;
- 3.8. Capacity development in all institutions involved in the energy sector;
- 3.9. The need to promote energy efficiency while preserving the natural forest cover; as embodied in ECREEE's Regional Policy and CILSS Solar PV and Biomass Initiative
- 3.10. Prescription of standards for-energy production to consumption supply chain;
- 3.11. The principle of energy being the engine of growth for the economy;
- 3.12. Promoting renewable energy technologies such as solar, wind, hydro and biomass; UN SE4ALL Initiative and CILSS Initiative on Solar PV and Biomass
- 3.13. Ensuring environmental sustainability in the provision of energy

- 3.14. Harmonising the National Energy Policy with Sub-Regional, Regional and Global Energy Policies in tandem with National development initiatives and strategies

4.0 POLICY GOALS

The long-term aim of the Government of The Gambia for the Energy Sector, as enshrined in the Vision 2020 document, is to maximise the efficient development and utilisation of scarce energy resources to support economic development in an environment-friendly way.

The goals, objectives and strategies outlined in this Policy document will provide the framework for the development and implementation of the energy sector programmes in the medium term (2014-2018).

The policy shall further articulate the role, incentives and requirements for private sector players to constructively participate in defining and realising the medium to long term goals of the energy sector.

5.0 OVERALL SECTOR OBJECTIVES

The overall objectives of the Sector are to:

- 5.1. Improve and expand existing energy supply systems through private sector partnership with the public sector;
- 5.2. Provide an impetus to socio-economic development through enhanced productive use of energy in industry and in rural areas;
- 5.3. Reduce the Gambia's dependence on imports of petroleum products for energy supply;
- 5.4. Minimise environmental impacts of energy supply through the promotion of more environment-friendly energy supply sources such as renewable energy and natural gas;
- 5.5. Strengthen institutional and human resource capacity and enhance Research and Development (R&D) in energy development;
- 5.6. Provide adequate energy security through diversity of supply and regional integration of supply and markets. (WAPP Revised Master Plan)
- 5.7. Reduce the inefficient utilisation of energy resources through utilisation of energy efficient technologies; UEMOA-IREC Initiative for Sustainable Energies

6.0 SPECIFIC DEVELOPMENT OBJECTIVES

6.1 Electricity

The development objectives of this sub-sector are to:

- a. Ensure an adequate, efficient and affordable electricity supply to support economic development;
- b. Improve and expand electricity generation, transmission and distribution capacity (unbundling NAWEC);
- c. Improve the reliability and security of power supply as well as enhance power sector efficiency;
- d. Ensure increased efficiency and conservation in the use of electricity; UN SE4ALL Initiative
- e. Reduce the cost of electricity and improve Gambia's regional competitiveness through the reduction of losses and structural inefficiencies;
- f. Increase access to affordable electricity to all the population, especially in the rural areas, through rural electrification programmes to stimulate rural development and thereby reduce poverty; as in the ECOWAS White Paper
- g. Promote the long-term sustainability of the power sector by encouraging more private sector participation in power supply by defining and marketing the strategic goals;
- h. Encourage the use of alternative and efficient technologies and fuels for electricity generation by enforcing the Renewable Energy Law;
- i. Ensure energy generation and distribution in an environmentally sound and sustainable manner.
- j. Establishment of national electricity grid
- k. Promote regional cooperation in trade in energy for diversifying national energy sources and achieving a well established ECOWAS energy market; WAPP Revised Master Plan

6.2 Petroleum Products

The petroleum sub-sector aims at ensuring the availability of adequate petroleum products throughout the country at economic prices. The specific objectives are to:

- a) Ensure availability, accessible and affordable supply of petroleum products
- b) Ensure that public Health, Safety, Security and Environmental (HSSE) issues (through Environmental and Social Impact Assessments (ESIAs)) are taken into account in the management of petroleum products;
- c) Develop and ensuring compliance to safety standards for procurement, storage and distribution of petroleum products;
- d) Ensure efficiency and availability of petroleum products at competitive prices;
- e) Encourage use of alternative fuels for energy production;
- f) Create strategic stocks of petroleum products to take care of unexpected shocks (shortages);
- g) Establish a regulatory framework to monitor and to ensure compliance in the industry

Challenges in the Petroleum sub-sector

Some of the main challenges facing the petroleum sub-sector following the progress made in the exploration front and the petroleum products management front are:

Putting in place adequate and effective legal, regulatory and institutional framework to manage the petroleum industry (upstream, mid-stream and downstream)

Putting in place appropriate policy environment that would attract local and foreign direct investment in the petroleum sub-sector.

Developing the human resource base with the requisite capacity to manage the petroleum industry

Putting in place the right infrastructure to enhance the availability and reliability of petroleum products supply

6.3 Hydrocarbon Exploration

- a) Encourage and support hydrocarbon exploration and exploitation;
- b) Develop policies and strategies to curtail the effects of oil and gas development on the ecosystem including, petroleum industry-specific environmental protection guidelines and appropriate regulatory frameworks.

6.4 Liquefied Petroleum Gas (LPG)

- a) Encourage private sector participation in the procurement, supply, bulk storage and distribution of the product;
- b) Reduce the cost of LPG fuel and promote it as an alternative to charcoal and other un-sustainable wood fuels;
- c) Establish and Enforce Health, Safety and Environment standards and regulations for bulk storage, refilling, transportation and retail of LPG
- d) Develop licensing framework for LPG market;
- e) Adopt a regional approach for popularisation of LPG use, countrywide;

6.5 Renewable Energy

The aim of the Renewable Energy sub-sector is to ensure the promotion and judicious utilisation of renewable energy resources and technologies that will bring about the sustainable development of the country. The specific objectives are to:

- a) Promote the utilisation of renewable forms of energy such as solar, wind, bioenergy, and hydro;
- b) Increase RE share in electricity generation; SE4ALL Initiative targets doubling RE capacity by 2030
- c) Facilitate use of RE to reduce grid energy costs and promote own generation at the consumer end;
- d) Enhance energy security through fuel diversity and import substitution by promoting utility scale Renewable Energy (RE) projects;
- e) Promote the use and develop, to the extent possible, a domestic production capacity for renewable energy technologies;
- f) Ensure relevant environmental screenings of the technologies in order to mitigate any potential impacts on the environment and adjacent populations.

6.6 Domestic Fuels/ Household Energy

- a) Ensure sustainable and efficient utilisation of fuel wood resources that are environment-friendly;
- b) Intensify government policy of transferring management responsibility of forest resources to the local communities for sustainability of fuel wood production and supply.
- c) Promote widespread use of alternative and efficient domestic fuels (such as briquettes, biofuel);
- d) Promote nationwide adaptation of improved cooking stoves;
- e) Raise awareness of current impact of un-sustainable use of charcoal and firewood;
- f) Generate and provide efficient information system on firewood and charcoal use and importation;
- g) Create incentives for the private sector to introduce alternative fuels.

6.7 Environmental Sustainability

- a) Encourage development of ESIA's for all types of investments in the implementation of the Energy Policy to prevent, minimize, mitigate, or compensate for adverse environmental impacts;
- b) Develop the institutional and human resource capacities of the relevant agencies to ensure effective implementation of environmental management plans.

6.8 Institutional Aspects

- a) Ensure an effective institutional framework for the Energy Sector.

7.0 POLICY AND STRATEGIES

7.1 Electricity

7.1.1 Policy Objective 1 - Increase the adequacy, accessibility and reliability of electricity supply nationwide

Policy Elements:

- a) Electricity is accepted universally as a stimulus to development, and the extent of coverage and use of electricity in any country is directly correlated with the extent of its development. GOTG's policy of extending the reach of electricity to every part of the country, under the GBA and Rural Electrification Programmes will therefore be pursued with emphasis on cost effectiveness, efficiency and equity.
- b) GOTG will ensure future security of power supply by developing complementary power generation capacity through the promotion of other sources including thermal, renewable energy generation, hydropower (OMVG), in partnership with the private sector.
- c) An electricity demand survey would be commissioned to provide the basis for medium and long-term planning of electricity supplies and demand.
- d) The rehabilitation, reinforcement and expansion of the existing electricity supply system would be accelerated;
- e) A culture of regular and effective preventive maintenance for the existing array of facilities and equipment (in particular the transmission and distribution networks) would be adopted to boost the availability and reliability of energy supply to optimality.
- f) GOTG will support and promote community participation through self-help electricity projects, coupled with the encouragement of initiatives, will be encouraged to engender a sense of ownership and sustainability for such investments to serve as a stimulus for growth.
- g) NAWEC will ensure that energy generation and distribution is carried out in an environmentally sound and sustainable manner.

Strategies:

- a) Encourage more investment in generation, transmission and distribution through Public Private Partnerships.

- b) Continue the implementation of the national electrification programme. Implement the transmission, sub-transmission plan for the GBA and the rest of the country.
- c) Establish and apply criteria, guidelines and transparent procedures to regulate all aspects of commercial interface between utilities and customers.
- d) Create a Nationally Interconnected Power System to prepare for and maximise the benefits of sub-regional interconnection (OMVG/WAPP).
- e) Develop and execute debt recovery plans to deal with the colossal and mounting liabilities of customers, and chart a course to better financial performance.
- f) Establish clear lines of management responsibility and authority (accountability) within the power sub-sector for the implementation of measures to restore and maintain commercial viability.
- g) Carry out the rehabilitation, reinforcement and expansion of the power supply infrastructure in the Greater Banjul Area (GBA) and Provincial towns.
- h) Develop an in-house Environmental policy to focus on issues relating to energy generation, transmission and distribution and their impact on the environment.

7.1.2 Policy Objective 2: Reduce electricity Losses

Strategies

- a) introduction and utilisation of more efficient power generating sets
- b) Refurbishment of the aging Transmission and Distribution infrastructure
- c) Upgrading of the existing capacity of T & D networks
- d) Establishment of a grid code

7.1.2 Policy Objective 3: Reduce the cost of electricity

Policy Elements:

- a) The acquisition of energy-efficient technology and associated infrastructure will be planned for to reduce power generation costs and increase the electrification rate.
- b) Long-term planning for replacement of generators, equipment and operating systems.
- c) Conduct a comprehensive study on technical and non-technical losses with a view to devising the most appropriate means of reducing them.
- d) Ensure that a study on least-cost power generation options is carried out with respect to their appropriateness and feasibility at the national and sub-regional levels.

- e) Conduct research into more energy-efficient technologies for electricity generation, in light of rapidly growing demand, to prepare the ground for higher levels of inward investment in the country and reduced dependence on oil.
- f) Promote hybrid power system solutions for off-grid rural towns and villages.
- g) Explore more cost-effective options for disposal of sludge from fuel oil being used for electricity generation.
- h) Review the institutional structure of the electricity sub-sector to ensure adequate participation of all stakeholders.
- i) To match the high growth rate in electricity demand, GOTG will ensure that detailed planning is undertaken to determine the timing, magnitude and nature of capacity expansion in the GBA and Provinces.
- j) The tariff structure and pricing of electricity shall be reviewed periodically

Strategies:

- a) Diversify mode of generation
- b) Increase the use of RE for electricity generation
- c) Unbundle the services of NAWEC
- d) Define the pricing model for electricity including a loss reduction strategy.
- e) Facilitate the mechanism for bulk customers to have the option of buying electricity directly from wholesale producers' electricity market.
- f) Phase out NAWEC's current monopoly in the wholesale supply of power to major consumers and establish a "power pool" of Independent Power Players (IPPs).
- g) Set up a wholesale power supply market that will use "open access" or "third party access" transmission and distribution services to promote healthy competition between power producers in the "power pool".

7.1.3 Policy Objective 3: Encourage private sector participation in the electricity supply industry

Policy Elements:

- a) Initiate reforms to establish an effective, transparent and comprehensive, framework that provides healthy competition in which the delivery of power utility services will be accelerated to serve the local and sub-regional markets.

- b) Encourage Independent Power Producers (IPP) to participate in power production, and open access to markets.
- c) Commercialise the operations of NAWEC and encourage private sector participation through partnerships in all segments of the value chain.
- d) Fragment NAWEC into its Strategic Business Units (SBUs) to facilitate better planning, effective management, resource allocation and divestiture. The SBUs can be Electricity Generation, Transmission and Distribution, Water Production, water distribution, commercial activities and sewerage management.
- e) The projected power generation capacity for the country, in the medium- to long-term shall be pronounced to attract both local and international bids for Build Own and Operate (BOO), Build Operate and Transfer (BOT) and Public/Private Partnership arrangements for the power supply industry, to meet the projected demand.
- f) To achieve the main objective of the energy sector, promote the strengthening of the human resource competences in particular, specialist application expertise in the managerial and technical areas.
- g) Legislation and regulatory procedures shall be developed to facilitate private sector participation in electric power generation, to encourage competition and delivery of electricity to consumers at the most cost-effective rates.
- h) Facilitate full cost recovery in the price of electricity.

Strategies:

- a) GOTG would strengthen the energy sector and its effective development by the coming into force of the Renewable Energy Law.
- b) Ensure the timely development of comprehensive electricity regulations that are cognisant of the views and concerns of all stakeholders.

Regulate the entry to and exit from the power sector by granting licences to registered operators, developing and enforcing specific “codes of practice” and “standards of performance” as provided in the Electricity Act.

- c) Encourage a programme for participation of IPPs for parcels of generating capacity based on a least cost strategy for increasing the role of private players in the electricity industry.
- d) Facilitate the re-aligning of the management structure of NAWEC into strategic business units (SBU’s), which are profit centres consistent with the specific licences to be granted by PURA.

- e) Divest the interest of government in the power sector and secure both local and international private participation to maximise customer value.

7.1.4 Policy Objective 4: Provide energy security through sub-regional and international cooperation

Policy Elements:

- a) Promote energy security by developing a strong capacity for the power generation sub-sector.
- b) Through the ECOWAS/WAPP framework create a single electricity market by interconnection of all power grids and the establishment of an electricity market. (new insertion)
- c) Power supply security will be further enhanced by the construction of a new power plant at another location strategically located vis-à-vis the Kotu Power Station.
- d) Facilitate the membership and active participation of The Gambia's Energy Sector in relevant international Organisations.
- e) Enhance energy supply security by; inter alia, contributing to the realisation of the primary objective of the OMVG Minimum Programme – to develop the Energy Sector.
- f) Ensure the Gambia's full participation in the utilisation of the West African Power Pool to harness the Sub-region's vast energy resources, to serve the West African market.
- g) Encourage NAWEC to continue meaningful cooperation, especially through South-South Cooperation, at sub regional, regional and global levels to provide hands-on training and experience for staff, including engineers, technicians and managers.

Strategies:

- a) Build capacity to participate effectively in the development of OMVG's hydroelectric power projects and the interconnection of the electric power grids of the sub-region.
- b) Interconnect the power systems of the OMVG member-countries and harness the hydro-power potential of the dam sites.
- c) Ensure GOTG's participation in the development of the West African gas pipeline - a potential alternative source of fuel for the production of electricity.
- d) Adopt and spearhead ECOWAS / WAPPs electric power interconnection program to enhance capacity and improve system reliability.

7.1.5 Policy Objective 5: To stimulate rural development

Policy Elements:

- a) Accelerate implementation of Phase two of the Rural Electrification Project and seek funds for more projects to increase the number of beneficiary towns and villages.
- b) The use of Solar PV systems, and harnessing wind energy as options for providing electricity to remote villages not connected to the electricity grid, shall be further expanded).
- c) Increase access to affordable energy services by expanding the rural electrification programme to cover more towns and villages in the country.
- d) Encourage establishment of industries to locate in the provinces.
- e) Encourage investment in rural power supply.
- f) Promote the development of renewable and hybrid systems in off-grid areas by NAWEC or private networks, to meet the demand in rural areas.

Strategies:

- a) Establishment of a Rural Electrification Fund and Agency to mobilise financial resources for the Rural Electrification programme, and the recovery of investment made.
- b) Develop localised power generation facilities, such as solar power, wind energy, and other types of renewable energy.
- c) Initiate planning for Phase Three of the Rural Electrification Programme.
- d) Secure funds to carry out planning studies for the replication of the KAUR Solar hybrid project in all regions.
- e) Learn lessons from the Multifunctional Platform Pilot program and roll it out to increase access to energy services to more rural communities

7.1.6 Policy Objective 6: Increase the efficiency and productivity in the use of electricity

Policy Elements:

- a) Develop and implement a national Energy Efficiency Policy and Law to enhance the sustainable utilisation of the power generated
- b) Introduce measures to reduce losses from leakages through transmission lines, fraudulent connections, minimise wasteful use of electric energy, arrest debts, and ensure full recovery of the costs of electricity supplied to customers.
- c) Introduce information, education and communication for efficient electricity use and conservation.

Strategies:

To help achieve the main aim of nationwide electrification, the promotion of efficient and productive uses of electricity will be undertaken alongside electricity expansion projects and in communities that have recently been electrified. This will be facilitated through:

- a) Expand use of pre-payment (Cash Power) electricity meters.
- b) Introduce user-education programmes on productive uses of electricity, especially in rural areas and for low-income households.
- c) Promotion of research into productive uses of hybrid electricity systems to reduce dependency on fossil fuels.
- d) Encouragement of the use of electricity to improve productivity among small-scale enterprises.
- e) Development of a national Energy Efficiency Strategy

7.2 Petroleum

The petroleum sub-sector aims at ensuring the availability of adequate and reliable petroleum products throughout the country at economic prices. The specific objectives are to:

- a) Ensure efficiency and availability of petroleum products at competitive prices;
- b) Encourage use of alternative fuels for energy production;
- c) Create strategic stocks of petroleum products to take care of unexpected shocks (shortages);

- d) Develop and ensure compliance of Health Safety Security and Environmental Standards (HSSE) for procurement, storage, transportation and distribution of petroleum products;

Challenges in the Petroleum sub-sector

Some of the main challenges facing the petroleum sub-sector following the progresses made in the exploration front and the petroleum products management are:

Putting in place adequate and effective legal, regulatory and institutional frameworks to manage the petroleum industry (upstream, mid-stream and downstream)

Putting in place appropriate policy environment that would attract local and foreign direct investment in the petroleum sub-sector.

Developing the human resources base with the requisite capacity to manage the petroleum industry.

Putting in place the right infrastructure to ensure the availability and reliability of petroleum product supply.

Policy Objective 1: Petroleum exploration and production to be undertaken in the most appropriate manner with a view to create employment and generate income for Gambian nationals

Strategies:

- A) Develop modern licensing regimes to provide stimuli for increasing exploration and production investment.
- B) Promote the hydrocarbon potential of the Gambia to attract foreign direct investment in petroleum exploration and production
- C) Encourage drilling of exploratory wells to assess the hydrocarbon potential of the Gambia

Policy Objective2: To ensure the appropriate and systematic collection and storage of petroleum and other related data, which shall be made available to the Government and the petroleum industry stakeholders.

Strategies:

Establish a modern data storage, management and marketing system

Ensure that all data, samples, records and reports obtained from petroleum exploration, development and production activities are provided to the Ministry of Petroleum

Encourage data acquisition using either preparatory for multi-client (non-exclusive in licensed and non licensed areas)

Policy Objective3*Ensure Gambian participation in petroleum exploration, development and production activities*

Strategies:

Develop local content initiative and corporate social responsibility policies with a view to maximise the benefit of oil and gas wealth for both current citizens and future generations

Midstream and Downstream

Policy Objective4: To ensure efficiency and security of supply of high quality petroleum products at competitive prices

Strategies:

Develop the relevant regulations on all midstream and downstream petroleum industry activities

Formulate petroleum marketing regulations to ensure price competition and a level playing field thereby providing scope for new entrants into the industry

To create strategic stocks of petroleum products to take care of unexpected shortages

Increase storage facilities in the country

Establish fuel testing laboratory and mobile fuel testing mechanism for monitoring fuel quality in the country.

Cross-cutting Issues

Policy Objective5: Institutional strengthening and capacity building for effective petroleum resource management

Strategies:

Building the capacity of Ministry of Petroleum staff

Building the capacity of relevant stakeholders, institutions (particularly tertiary institutions) and local communities

Implementation of all cooperation agreements signed with our bilateral partners

Encourage sub-regional cooperation and bilateral cooperation with new partners and on petroleum matters

7.2.1 Policy Objective 6: affordable, accessible and reliable supply of Petroleum products

Strategies

- a) Importation of petroleum products should be competitive
- b) Oil Marketing Companies should be encourage to open more outlets in the provinces
- c) To ensure reliable supply, proper stock management system should be put in place

Policy Objective 7 Develop HSSE standards for the procurement, storage transportation distribution and disposal of petroleum products

Policy Elements:

- a) GOTG shall formulate and introduce legislation for the petroleum products sub-sector, including the quality, transportation, storage, distribution and the use and disposal of used petroleum products.
- b) GOTG, through the appropriate national agencies will formulate regulatory procedures to ensure fair competition and curb collusive tendencies.
- c) Establish a quality assurance, inspection and testing system.
- d) Introduce regulations to ensure HSSE standards on the safe transportation and handling of petroleum products.

Strategies:

- a) Formulate regulations and guidelines to ensure fair competition and curb collusion tendencies
- b) Introduce regulations for the sub-sector, covering quality standards, safety, transportation, handling and storage; and the disposal of used petroleum products
- c) Review, enhance and coordinate emergency response plan, in collaboration with relevant national agencies, to deal with oil spills and general emergencies associated with the handling and use of petroleum products.
- d) Review, periodically, emergency response plans and preparedness, complemented with bi-annual exercises at all strategic locations in collaboration with relevant national agencies.
- e) The Sea and Airports Authorities and the depot pipeline operator and retailers shall be required to conduct independent Health Safety Security and Environment (HSSE) audits to monitor compliance with regulations and guidelines.

The National Environment Agency, in collaboration with the Sea and Airports Authorities shall be required to conduct independent Health Safety Security and

Environment (HSSE) audits to monitor compliance with regulations and guidelines by the depot pipeline operator and retailers.

- f) Ensure that independent HSSE audits are commissioned by all actors operating in the petroleum products logistics chain.
- g) Ensure efficient use of the oil berth and the safe discharge of petroleum products at the Banjul Port.
- h) Establish management and inspection systems to mitigate incidences of oil spills, pipeline and tank leaks, explosions and fire hazards.
- i) Create a National Laboratory to enable the testing and verification of product quality and composition with reference to specified standards.
- j) Develop Health, safety, security and Environmental (HSSE) standards for procurement, storage and distribution of products

7.2.2 Policy Objective 8: To ensure efficiency and availability of petroleum products at competitive prices.

Policy Elements:

- a) Formulate petroleum-marketing regulations to ensure price competition and a level playing field thereby providing scope for new entrants into the industry.
- b) Ensure that the most cost-effective modes of transportation, storage and distribution of petroleum products shall be established.
- c) Continue efforts in the promotion and exploration for oil and gas.
- d) Adopt the “common carrier” concept for the transportation, storage and distribution of petroleum products to reduce prices.
- e) Conduct a heavy fuel oil transfer and storage optimisation study with reference to the planned capacity expansion in power generation.

Strategies:

- a) Ministry of Energy to formulate a strategy for The Gambia’s participation in the development and expansion of the West African Gas Pipeline Project, planned to cover all the ECOWAS countries.
- b) The Gambia Free Zones Authority shall promote the sub-regional bunkering of petroleum products in the free zone, to increase fuel security and reduce fuel cost in the medium to long term.

7.2.3 Policy Objective 9: Encourage the use of alternative fuels and more efficient technologies for energy production.

Policy Elements:

- a) Further explore the prospects of using heavy fuel oil and other cost-effective fuels for power generation.
- b) Explore the prospects of using gas as an alternative fuel for energy generation.

Strategies:

- a) Complement GOTG's fiscal incentives with donor assistance to promote the use of LPG for energy production.
- b) Continue to provide fiscal incentives to ensure the viability of the rural electrification programme.
- c) Encourage investment in efficient and alternative technologies for power generation.
- d) Encourage private power production

7.2.4 Policy Objective 10: To create strategic stocks of petroleum products and encourage the systematic collection of data to be made available to stakeholders

Policy Elements:

- a) GOTG will encourage the development of complementary depots in strategic locations in the country.
- b) GOTG shall bunker a Legal Stock Reserve of petroleum products and relevant data for statistical purposes.
- c) GOTG shall ensure that the aggregate Insurance Stock of petroleum products, held in storage by all the Licensed Oil Marketing Companies.

Strategies:

- a) Pursue the expansion of existing depot capacity and additional storage for strategic stocks, to optimise parcel sizes, minimise dead-weight charges and subsequently the cost of fuel to the user.
- b) Explore the possibility of erecting at least two small depots at strategic locations upstream along the river where they can be supplied either by barge or road tanker.
- c) Establish a modern data storage, management and marketing system.
- d) Ensure that all data, samples, records and reports obtained from petroleum exploration, development and production activities are provided to the Ministry of Petroleum.
- e) Encourage data acquisition using either preparatory for multi-client (non-exclusive in licensed and non licensed areas)

UPSTREAM PETROLEUM OPERATION

7.3 Hydrocarbon Exploration

7.3.1 Policy Objective 11: Support Hydrocarbon Exploration and Exploitation

Policy Elements

- a) Develop modern licensing regimes to provide stimuli for increasing exploration and production investment.
- b) Review the legal and fiscal regime to ensure sub-regional competitiveness.
- c) Promote the hydrocarbon potential of the Gambia to attract foreign direct investment in petroleum exploration and production.
- d) GOTG to undertake local initiatives to promote activities in the Sub-sector.
- e) Promote Sub-regional cooperation in hydrocarbon exploration and exploitation.
- f) GOTG to formulate industry-specific environmental protection guidelines and appropriate regulatory frameworks.
- g) Encourage drilling of exploratory wells to assess the hydrocarbon potential of the Gambia.

Strategies:

- a) GOTG will encourage cooperation with neighbouring countries to adopt a cross-border approach for information collection and exchange.
- b) Ensure the optimal petroleum promotion for the region through cross-border collaboration.
- c) GOTG will work with neighbouring countries to harmonise licensing terms and petroleum laws, to further encourage open cooperation on the harmonisation of policies, strategies, regulations and fiscal regimes for hydrocarbon exploration.
- d) A Sub-regional Oil and Gas Conference and/or similar forum will be established to facilitate dialogue within the stakeholders of hydrocarbon exploration.
- e) Human resources development for efficient management of sub-regional petroleum resources through collaboration with international partners.
- f) Initiate new studies (such as seismic acquisition on open acreage in shallow water and onshore), complementary to the work of the oil companies, on exploration activities.
- g) Strengthen international cooperation initiatives to enable the country to promote its petroleum potential.
- h) Develop regulations in managing the environment to include (i) prescription of environmental codes and setting of standards to be met by operators, (ii) the need for oil companies to develop environmental management system (EMS).

7.4 Liquefied Petroleum Gas (LPG)

7.4.1 Policy Objective 12: Reduce the Unit cost of LPG to promote its use and reduce dependence on Fuel wood.

Policy Element

- a) Promote the development of the LPG Sub-sector.
- b) Support bulk importation and storage of LPG.
- c) Promote more competition on LPG marketing

Strategies

- a) Provide subsidies for first time users of LPG (including direct cylinder subsidies).

- b) Provide incentives to encourage more private sector participation in the further development of domestic production of LPG (import, storage bottling, and distribution facilities) in The Gambia – Incentives should include tax-free concessions on the imports of all LPG-related equipment and products.
- c) Explore, through bilateral cooperation, (if necessary) the creation of a single (common) LPG market between The Gambia and Senegal

7.4.2 Policy Objective 13: Popularise the use of LPG Nationwide

Policy Elements

- a) Create incentives, initially, that far outweigh the price advantage of fuel wood, to enable the majority of Gambians appreciate the value of using LPG for cooking.
- b) Review the pricing structure to make LPG a viable alternative to fuel wood.
- c) Encourage research and development of innovative appropriate technologies for household application in the use of LPG.

Strategies

- a) Re-introduction of start-up subsidy, for a limited period of time, (through donor assistance) to overcome one of the major drawbacks to the use of LPG - the relatively high cost of the prerequisite equipment (the cylinder, burner and stand).
- b) Create mechanisms for providing interest free loans as well as other fiscal incentives for acquisition and use of LPG as a substitute fuel.
- c) Create awareness of the benefits (economic and environmental) of using LPG.
- d) Provide incentives to encourage more private sector participation in the further development of domestic production of LPG (import, storage bottling and distribution facilities) in The Gambia – Incentives should include tax-free concessions on the imports of all LPG-related equipment and products.
- e) Explore, through bilateral cooperation, (if necessary) the setting up of an LPG cylinder and component manufacturing plant in The Gambia.
- f) In collaboration with operators, carryout awareness raising programmes to educate communities on the safe use of LPG, as well as its environmental benefits through radio, TV, print and electronic media.

7.4.3 Policy Objective 14: New regulatory and licensing framework for LPG market, Improve standards of cylinders and Enforce occupational safety at LPG processing plants

Policy Elements

- a) Formulate Health and Safety (HS) standards for the handling, transportation, storage and distribution of LPG.
- b) Promote occupational health and safety standards for LPG processing
- c) Ensure environmental conservation at and around workplaces and premises at various locations viz Depots, Installations, Retail outlets, etc.

Strategies:

- a) Create a fair and competitive LPG market that is less concentrated and highly competitive
- b) Formulate regulations to license all LPG importers, bottling plants and also transportation, storage and marketing
- c) Introduce mandatory standards for ALL cylinders and fittings in the market
- d) Ensure mandatory labelling/branding of LPG bottles by all suppliers to distinguish bottles.
- e) Raise awareness about LPG handling and storage within households
- f) Enforce occupational health standards at LPG processing facilities
- g) Initiate environmental screening and assessment for any investment in the sector to determine potential impacts on both the environment and humans.

7.5 Renewable Energy

7.5.1 Policy Objective 15: increasing RE share in electricity production

Strategies

- a) To replicate the Kaur Hybrid project in all provincial power stations
- b) National RE for target for electricity generation should be set with the right policy mechanism
- c) GoG to encourage investment in renewable energy technologies for power generation

7.5.2 Policy Objective 2: increasing human resources capacity in RE

Strategies

- a) Establish and run National RE training and Certification programme for various categories of personnel e.g installers
- b) Establish licence system for RE Technicians,
- c) Etc.

7.5.3 Policy Objective 16: Promote utilisation of renewable energy technologies.

Policy Element

- a) Popularise the use of solar photovoltaic (PV), wind turbine technologies, and thermal systems in the Gambia to provide power for various applications particularly in rural areas.
- b) Encourage the use of RE as alternative domestic fuel resources
- c) Facilitate donor intervention on the provision of grants, interest-free loans as well as fiscal incentives for the acquisition of renewable energy devices, including solar Photovoltaic, wind turbine technologies, and thermal systems.
- d) Implement RE Law recommendations for Feed-in-Tariffs to attract investment in the RE power plants.
- e) Publish and gazette FIT to give confidence to investors

Strategies

- (a) Conduct RE awareness exercises
- (b) Create incentives for utilisation RE technologies
- (c) Encourage private sector participation in the use of all types of RE technologies include new technologies
- (d) Ensure a Feed-in-Tariff is in place to attract Private sector in RE

7.5.4 Policy Objective 17: Regulate and promote the utilisation of renewable energy technologies as well as local manufacturing

Policy Element

- a) Formulate or adopt standards of equipment of RE imported into The Gambia
- b) Enhance institutional and human capacity in RE technologies

Strategies

- a) Encourage and expand the introduction of wind pumps, through local engineering firms or design and manufacture for irrigation especially for women's gardens.
- b) Regulate solar installers to ensure industry wide standard installation and build consumer confidence on RE technologies and create employment.
- c) Promote local RE technology assembling and/or manufacturing and engineering such as wind mills for water pumping, solar dryers, etc.
- d) Strengthen existing institutions like GREC GTTI and the University of The Gambia to enable them introduce RE programmes, train installers and also RE awareness not only for the public but also for policy makers, among other things.
- e) Promote the use of solar water heaters in institutional facilities, hotels and private households.
- f) Create awareness of the benefits (economic and environmental) of using renewable energy technologies through public education (TV, radio and other media).
- g) Promote adaptive research and development of renewable energy devices.
- h) Encourage and support private sector participation in the promotion and development of RE technologies.
- i) Regulate RE business by setting minimum requirements and licence

7.6 Domestic Fuels/Household Energy

7.6.1 Policy Objective 18 - Ensure sustainable and efficient utilisation of fuel wood resources

Policy Elements

- a) Encourage the production and promotion of "new generation" improved stoves.
- b) Promote forest management for sustainable exploitation of fuel wood stocks and professional training of staff.
- c) Promote the importation of limited quantities of charcoal in the interim, as a fuel source, while efforts are made to seek alternative fuels.
- d) Ensure the monitoring of product flow of fuel wood.

- e) Encourage the production of and promotion of other forms of biomass and wood resources such as briquettes, biogas, etc.

Strategies:

- a) Reactivate the RPTES and facilitate implementation of its investment programmes on the traditional energy sector.
 - b) Enforce the ban on the domestic production of charcoal.
 - c) Support community oriented activities in the implementation of improved stoves.
 - d) Support and introduce new improved stove manufacturing plants for artisans in each region.
 - e) Facilitate training and re-training of Gambians (especially the youths) in the designing and manufacturing of new generation improved stoves.
 - f) Formulate and implement new comprehensive improved stove programme to ensure accessibility.
 - g) Initiate plans for rapid forest regeneration to address the current decline in forest resources, occurring as a result of over-exploitation and excessive consumption.
 - h) Initiate measures for curbing and/or minimising the forest depleting effects of fuel wood harvesting and use, to ensure sustainability of resources.
 - i) Intensify the on-going community forest management efforts being implemented by the Forestry Department.
 - j) Transfer management responsibilities for forests to local communities.
 - k) Permit the rational harvesting of green trees (from wood lots) for fuel, in zones that have been brought under community management, subject to agreed management plans between the communities and the Forestry Department.
- l. Increase public awareness on the importance of using efficient stoves
- m. Adopt or initiate standard and labelling of cook stoves

7.6.2 Policy Objective 19: Promote the use of alternative fuels

Strategies

- a) Improve the quality of briquette produced for more acceptability
- b) encourage the use of biogas for cooking through implementation of a national pilot programme
- c) encouraging farmers to grow energy crops for own consumption
- d) support and encourage research institutions to carry out research works on alternative cooking fuel
- e) etc

7.7 Energy Efficiency & Energy Conservation

7.7.1 Policy Objective 20: Encourage energy efficiency

Policy Elements:

- a) Reduce household energy consumption by promoting use of efficient appliances
- b) Curtail the sharp growth in electricity consumption

Strategies

- a) Introduce mandatory labelling of energy appliances including fridges, air conditioners, etc.
- b) Impose a viable VAT that discriminates based on performance standards.
- c) Public sensitisation on energy efficient appliances

7.7.2 Policy Objective 21: Increase the use of high energy efficient equipments

Policy Elements

- a) Introduce more energy efficient appliances and avoid old and outdated appliances as they tend to draw more energy from the grid, contributing to higher energy losses.
- b) Reduce environmental damage through use of ozone friendly gases in refrigerators and similar appliances.

Strategies:

- a) Create public awareness on the importance of using energy efficient equipments

- b) Introduce or adopt energy efficiency standards and labels to help buyers make informed purchase on all electrical appliances
- c) Introduce or adopt energy efficiency standards and labels for cook stoves
- d) Introduce Regulation prohibiting or restricting the importation of used fridges and air conditioners.
- e) Offer incentives to companies importing new and low energy consumption appliance (fridges and air conditioners).
- f) Phase out the importation and use of incandescent bulbs (set target date) and promote energy efficient lighting including CFL, LEDs.
- g) Develop a comprehensive Public Lighting Policy that incorporates RE and standards on luminance and energy efficiency of lamps.

7.7.3 Policy Objective 22: Reduce electricity losses

Strategies:

- a) Replace all aging T & D network infrastructure
- b) Replace generations that have out-life their useful time
- c) Upgrade the T & D network capacity
- d) Encourage the purchase of more efficient generators
- e) Encourage the purchase and use of energy saving bulbs
- f) Adopt of set standard on the quality of electrical wires to be used in wiring buildings
- g) Conduct a comprehensive study on network losses.
- h) Carry out Power Factor improvement project to reduce reactive power.
- i) Maintain and enforce standards on the length of distribution lines and circuits.

7.7.4 Policy Objective 23: Promote energy conservation in transport sector

Strategies:

- a) In collaboration with relevant institutions and ministries, develop an information system on number of vehicles in the country (petrol, diesel, fleet profile, etc.) and determine consumption patterns.

- b) Provide tax breaks and incentives for low consumption vehicles, new vehicles and increase taxes on older and higher fuel consumption vehicles.
- c) Encourage urban mass public transportation to reduce energy density of current van based transportation.

7.8 Sustainable Environmental Management

7.8.1 Policy Objective 24: Ensure that implementation of the Energy Policy does not create negative impacts on both the environment and human beings.

Policy Elements

- a) Develop a sector-wide environmental policy to guide investments in the national energy sector
- b) Conduct an Environmental and Social Impact Assessment (ESIA) of all the types of investments to be carried out before they are implemented.

Strategies

- a) Develop an internal environmental policy whose implementation will be the responsibility of an Environmental Specialist on NAWEC's payroll.
- b) Encourage development of alternative environmentally friendly technologies to manage the wastes generated from the use of the HFO and other fuels by NAWEC generators.
- c) Adopt relevant policies and national laws to regulate the industry in line with the country's international obligations.
- d) Develop safety standards and guidelines to ensure the safe distribution and sale of the LPG products.
- e) Provide resources to develop the human and institutional capacities of the relevant partners in the implementation of the environmental policy guiding the Energy sector.
- f) Develop strategies to curtail the effects of oil and gas development on the ecosystem.
- g) Formulate and enforce petroleum industry-specific environmental protection guidelines and appropriate regulatory frameworks.

7.9 Institutional Aspects

7.9.1 Policy Objective 25: Ensure an effective institutional framework for the Energy Sector

Policy Element

Rationalise and strengthen the institutional framework within the Sector.

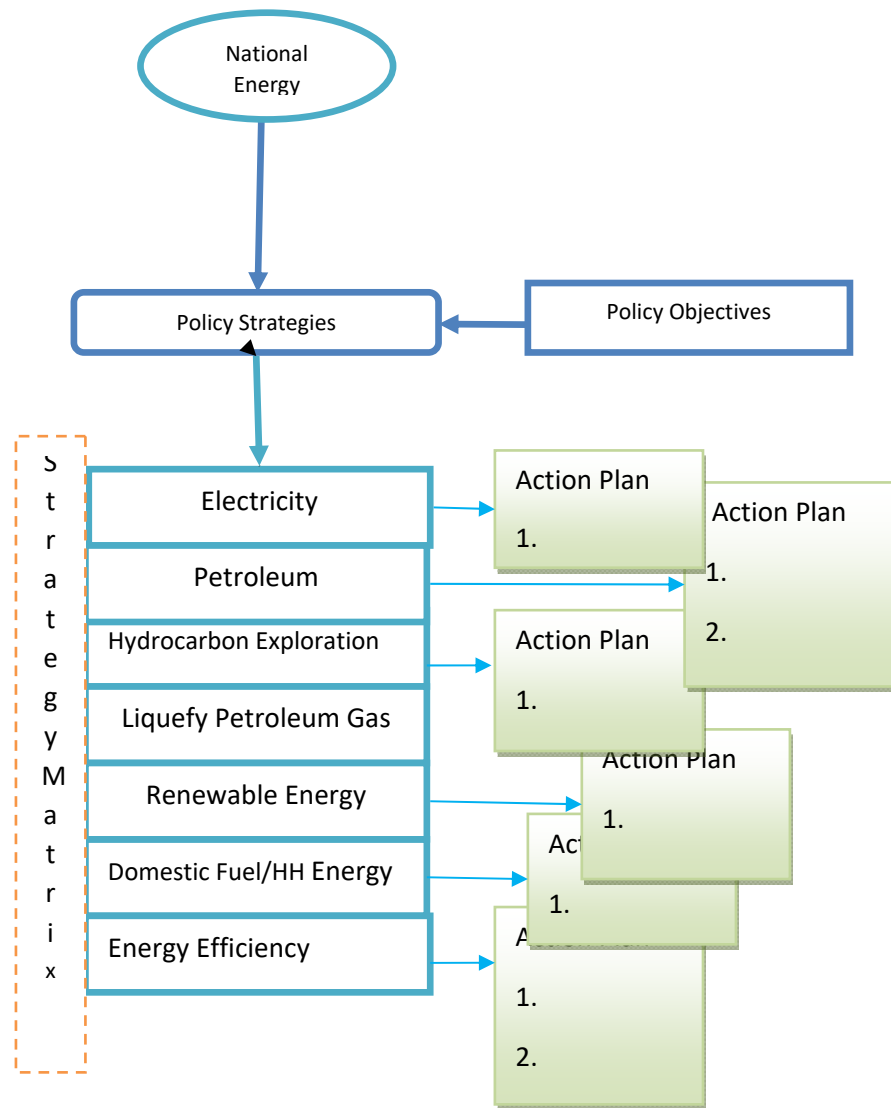
Strategies

- a) Establish mechanisms to facilitate effective policy implementation and coordination of energy-related activities in the different institutions, including the creation of a national energy commission and Department of Energy;
- b) Identify capacity building needs in the different institutions and prepare and execute a comprehensive capacity-building programme for all relevant stakeholders.

8. POLICY STRATEGIES AND ACTION PLAN

Once strategies are formulated plans must be put in place to implement the strategies in order to achieve the desired objectives. An Action Plan is required as an indication to implement the strategies by giving needed resources for the implementation.

The Revised National Energy Policy has clear objectives and in order to achieve these objectives, strategies have been formulated that must be implemented to achieve the objectives. To implement the strategies an Action Plan is prepared using the VMOSA (Vision, Mission, Objectives and Action plan) Model. Based on the Model the diagram below is generated to outline the steps involved.



The Revised Energy Policy Action Plan is spread over a period of four years 2014 to 2018.

Below is the indicative Action Plan:

	2014	2015	2016	2017	Executing Agency
MATRIX 1: ELECTRICITY					
Theme 1: Increase capacity, Reliability and Access					
Activities: <ol style="list-style-type: none"> Promotion of private sector participation in generation, transmission and distribution of electricity Conduct rehabilitation, reinforcement and expansion of power generation in the urban and rural areas. Reinforce and expand the transmission and distribution network Create a national grid in preparation for sub-regional power system integration; WAPP and OMVG Establish and apply very clear criteria, guidelines and procedures to reinforce existing electricity operator and customer relation. Develop and execute debt recovery plans to deal with the colossal and mount reducing liabilities of customers, and chart a course to better financial performance. 					MoE, MoFEA, MoTI, NAWEC
Theme 2: Electricity Cost Reduction					
Activities: <ol style="list-style-type: none"> Pursuit interconnection with neighbouring countries for importation of cheaper Electricity Utilize generation technologies with cheap production cost Encourage the use of hybrid systems in the rural area to reduction production cost Implement the unbundling of NAWEC to take care of current cross-subsidies 					
Theme 3: Electricity Loss Reduction					

Activities:

1. Rehabilitate, Refurbish and upgrade T&D Network
2. Rehabilitate, Refurbish and Upgrade Gen Sets to increase efficiency and reduce production cost
3. Re-vamp the Commercial Loss Control Unit

Theme 4: Opening up of the Electricity Sub-sector to private participation

Activities:

1. Divestiture of GoG interest in power production, transportation and distribution
2. Applying the Renewable Energy Law to gain private sector participation in the energy sector.
3. Gradual reviewing of electricity price to reflect true cost
4. Creating right legislation and strong regulation to gain private sector confidence in the sector

Theme 5: Reduce energy poverty by regional and global cooperation

Activities:

1. Cooperating with ECOWAPP and OMVG in interconnecting and creating a regional electricity market
2. Interconnect rural mini-grids with GBA grid to reduce energy poverty in the rural areas
3. Build capacity for effective in national and international energy initiatives
4. Expand rural electrification to increase access; plan for Phase III of the REP

MATRIX 2: PETROLEUM

Theme 1: Ensure efficiency, availability and affordability of petroleum products

Activities:

1. Regulate and Liberalize the petroleum market
2. Establishing the most cost-effective modes of transportation, storage and distribution of petroleum products.
3. Establish a "common carrier" concept for the transportation, storage and distribution of petroleum products to reduce prices.
4. Continue efforts in the promotion and exploration for oil

Theme 2: Encourage alternative fuels and more efficient technologies in energy production.

Activities:

1. Promote the use of heavy fuel oil, coal, gas and other cost-effective fuels for power generation.
2. Create fiscal incentives with donor assistance to promote the use of LPG for energy production.

Theme 3: create strategic stocks of petroleum products

Activities:

1. encourage the development of complementary depots in strategic locations in the country
2. Bunker a Legal Stock Reserve of petroleum products
3. Provide for an aggregate Insurance Stock of petroleum products by all the Licensed Oil Companies
4. Expand existing depot capacity and creation of additional storage for strategic stocks
5. Erect at least two small depots at strategic locations up along the river for supplied by barge or road tanker.

MATRIX: Domestic Fuels/Household Energy

Theme 1: Liquefied Petroleum Gas (LPG)

Activities:

1. Reduce cost of LPG to promote its use to replace wood as domestic fuel
2. Regulate use of LPG with licensing framework for participation of the private sector
3. Promote the development of the LPG Sub-sector
4. Create awareness of the advantages and benefits of using LPG
5. Ensure bulk importation and storage of LPG Create

MATRIX: RENEWABLE ENERGY

Theme 1: Increase RE share of the electricity production

Activities:

1. replicate the Kaur Hybrid project in all provincial power stations
2. National RE target for electricity generation should be set
3. encourage investment in renewable energy technologies electricity production

Theme 2: Build human resources capacity in RE

Activities:

1. Establish and run National RE training and Certification programme
2. Establish licence system for RE Technicians

9.0 LEGAL, REGULATORY AND INSTITUTIONAL FRAMEWORK

The provisions in this proposed framework are premised on the following:

- a) The Ministry of Energy being the responsible Institution to implement the Energy Policy;
- b) The creation of a National Energy Commission (NEC);
- c) Unbundling NAWEC for sector participation;

Timely and efficient execution of the Policy and strategy elements necessitates institution of a sound, well focussed and result-oriented structure to effectively deal with the administrative, legal, regulatory and institutional aspects, as detailed below:

9.1 Legal Aspects

The legal aspects in this Policy comprise existing legal provisions as well as proposed new legislation, to facilitate policy implementation. The legal aspects are as follows:

Existing Legislation:

- 9.1.1. A new Investment Code recently enacted (2013) and administered by GIEPA which provides investment incentives to be granted to priority investment sectors.

It is acknowledged that through this policy Gambia Government grants duty-free concessions to items imported into the country for use in the Energy Sector, such as for electricity generation and distribution, and renewable energy – solar, wind and hydro-energy.

However, to ensure a reduction in the consumption of fuel wood and arrest the rapid depletion of the country's forest cover, it is recommended to also grant duty-free concessions to LPG, to help sustain its use as a viable option to forest-depleting products.

- 9.1.2. To implement the proposed Public Private Partnership policy under the Ministry of Finance and Economic Affairs (MOFEA) to facilitate and promote infrastructural development including IPPs and Power Purchase Agreements (PPAs)
- 9.1.3. On international cooperation in Hydrocarbon exploration, this Energy Policy recognises the existence of the Treaty of Cooperation, between Mauritania, Senegal, The Gambia, Guinea Bissau and Guinea Conakry (MSGBC), concerning exploitation of cross-border resources.
- 9.1.4. To continue implementing the licensing system for operators in Independent Power Production and marketing.
- 9.1.5. the formulation and implementation of RE regulation is crucial following the enactment of the RE Law.

Petroleum Products:

- 9.1.5. The institution of minimum safety, environmental and quality standards; emergency preparedness; and guidelines for establishing and maintaining contingency plans, including detailed training requirements for individuals;
- 9.1.8. The requirement to have licences for the various activities in the import/supply/resale chain, such as for transportation, storage, wholesaling/retailing and distribution operations;
- 9.1.9. It is recommended that Government introduces legislation for the safe unloading, transportation, storage (including specifications of the types of receptacles in which petroleum products can be stored), distribution and use of petroleum products;

9.1.10. Legislation concerning improvements in the inspection and control of transport vehicles and vessels;

9.1.11. Legislation stipulating minimum stock levels (National Reserve) of petroleum products at storage depots;

9.1.12. Legislation banning the storage of petroleum products (particularly LPG and volatile fuels such as petrol) in heavily populated areas, because of the health, safety and environmental risks;

9.1.13. Legislation governing safe disposal of used petroleum products such as engine oil, heavy-fuel sludge and other lubricants.

9.1.14. Legislation requiring all investments in the petroleum sector to undergo environmental screening for approval

Liquefied Petroleum Gas (LPG)

9.1.15. Introduction of legislation (for minimum safety standards that meet international environmental, health and safety standards) binding the transportation, handling, storage, distribution and use of LPG;

9.1.16. Legislation should be introduced for a licensing system for operators in the LPG business, to promote safer use of the Gas.

Domestic Energy Sources

9.1.17. Government should consider accelerating approval of the Forestry Bill to facilitate implementation of measures planned by the Department of Forestry for harnessing forest resources;

9.1.18. Introduction of legislation conferring rights of forest resource exploitation and management to rural communities, subject to the provisions in existing legislation, while making the promotion of agro-forestry a shared responsibility among all parties;

9.1.19. Legislative reform establishing property and exploitation rights in conjunction with the decentralisation of administrative responsibilities in traditional energy resources;

9.1.20. Harvesting of green trees for wood fuel should be permitted only in zones that have been brought under community management (wood lots), under the provision of agreed management plans between the communities and Forestry Department, while more environment-friendly alternatives to fuel wood are sought.

Promotion of Energy-efficiency

9.1.21. **Legislation for: Demand-side Energy Management**, such as scrupulous management (prevention of misuse) of energy in buildings, industry, agriculture, and in the use of appliances.

9.2 Regulatory Functions

To assign meaning to the legislative instruments proposed in Section 8.1 above, PURA needs to be further empowered to conduct its regulatory functions effectively. In broad terms under the PURA Act, regulatory functions and procedural guidelines assigned to the Agency include the following:

- a) Setting the ground rules for operation (by sub-sector);
- b) Licensing: issuing of licences for operating in specific areas of the Sector; and monitoring and enforcing compliance with the provisions in the licences;
- c) Pricing: reviewing tariff proposals and establishing tariffs;
- d) Service and Quality Standards: specifying and enforcing quality standards;
- e) Sector expansion: reviewing capital investment plans;
- f) Monitor compliance with regulations in general and, in particular, specific issues such as arrangements for prevention of fire, explosion and environmental hazards; and competition issues and adjustment of equipment/instruments;
- g) Imposing penalties for non-compliance, as and when necessary, but creating room for regulatory decisions to be appealed against in the courts, if desired.

Specifically, regulatory procedures shall apply to various aspects in the Energy Sub-sectors, as follows:

Electricity:

9.2.1. Regulation of private sector participation in the generation (supply) and maintenance of electricity supplies.

Petroleum Products:

A Regulatory Framework is necessary to ensure that:

9.2.2. There is safety, security and delivery of high quality products, and that the tendency for abuse of procedures, or collusion is avoided;

9.2.3. There is compliance with existing legislation;

9.2.3. Safety is guaranteed, thus prevent harm or danger to people, the environment and/or assets;

9.2.4 All required fiscal metering is performed in accordance with the regulations;

9.2.5. The petroleum pricing mechanism functions, in accordance with the regulations, thus result in open competition;

9.2.6. The tax system functions in accordance with existing regulations;

9.2.7. Product quality measures up to national and international standards and meets Gambian specifications;

9.2.8. Spot checks are made on fuels including petrol, diesel fuel, kerosene and aviation fuel to prevent product adulteration; and to ensure adherence to safety standards as spelt out in existing procedures;

9.2.9. The products do not pollute the environment irreversibly.

Separate regulatory arrangements shall be made for LPG and Domestic Energy sources to administer the following:

Liquefied Petroleum Gas (LPG)

9.2.10. Regulatory procedures governing the granting of permits for dealing in LPG, and inspections on LPG installations, to verify compliance with standards for all aspects of the importation and retailing chain;

9.2.11. Regulation to ensure that the benefits from the Government incentives are shared with consumers.

Domestic Energy Sources

9.2.12. Regulatory processes necessary for the use of traditional energy sources such as fuel wood are carried out accordingly. Public sector institutions assigned the monitoring of these functions should create an environment that would foster a participatory approach involving the private sector, NGOs and the grassroots (bearing in mind the gender dimension), to effectively harness these resources.

8.3 Institutional Framework

8.3.1 Existing Institutional Framework

The existing framework for energy is fragmented and consists of the following:

- a) The Ministry of Energy, Office of the President assumes responsibility for the electricity Sub-sector;
- b) The MOE formulates and implements Energy Policy and also serves as the Focal Point for Energy matters in The Gambia except petroleum matter;
- c) Aspects relating to domestic (traditional) fuels (fuel wood, charcoal and other biomass) are administered by the Department of Forestry (DOF);
- d) The Department of Community Development (DCD) conducts adaptive research into improved technologies for energy production with traditional fuels, and also handles sociological aspects of traditional fuels;
- e) The Ministry of Petroleum is responsible for petroleum matters (all the streams);
- f) The Gambia Renewable Energy Centre (GREC), a unit under the MoE, assumes the responsibility for conducting adaptive research and development, and promotion of renewable energy use;
- g) The Department of Water Resources (DWR) is the Desk Office for the Gambia's participation in the OMVG initiative to generate hydro-electricity for its member-countries.

9.3.2 Proposed New Institutional Framework

For more effective implementation and coordination of energy activities, especially involving private sector participation, it is necessary to have a streamlined, centralised and very coherent approach to policy implementation. These prerequisites would facilitate well-focussed policy implementation, as well as represent incentives to investors wishing to invest in sub-sectors such as electricity generation.

Hence, it is recommended that a framework that would effectively coordinate the sector's activities, as well as make an impact in the development of the Energy Sector through this Policy should be mindful of the provisions in Section 8 (a) to (g), above and be drawn on the following lines:

- a) MOE being the coordinating Office for the implementation of this Policy;
- b) Strengthening of MOE with the provision of a senior officer (at Deputy Permanent Secretary level), answerable to the Permanent Secretary, to facilitate policy implementation by dealing with the day to day coordination of non-technical matters and conducting other administrative duties relating to the Energy Sector and Policy. In

particular, the Officer shall execute the following responsibilities, in consultation with the Director of Energy within MOE:

- i. Take prompt action, with the appropriate Government Authorities, to strengthen the Department of Energy, in the immediate future, to enable it undertake its coordination functions, and in the medium-term, to effectively execute the responsibilities outlined in Section (d), below;
 - ii. Facilitate the work of the Department of Energy, by acting promptly on all measures prescribed by them, in the policy implementation process;
 - iii. To follow-up and assist the Department of Energy in the implementation of all the recommendations, and the policy and strategy elements in this Policy;
- c) Creation of a National Energy Commission (NEC) to guide policy implementation and review. The Commission should be composed of members from both the public and private sectors to reflect the holistic approach necessary for efficient development of the Sector. The mandate of the Commission shall include:
- i. Overseeing and monitoring the implementation of the National Energy Policy (NEP);
 - ii. Participating in periodic policy review;
 - iii. Deliberation on energy-related matters that impact on the Energy Sector and the economy;

The Department of Energy in MOE, shall serve as the Technical Secretariat to the NEC.

- d) Execution of the following responsibilities by the Department of Energy
- i) Planning, coordination, monitoring and evaluation of all energy-related activities in the implementing institutions (existing institutions as well as new ones proposed to be created to facilitate policy implementation);
 - ii) Foster effective inter-agency collaboration (in-country) to facilitate efficient policy implementation;
 - iii) Ensure strengthening of the Gambia Renewable Energy Centre (GREC) to provide technical backstopping in the sound development and use of renewable energy;
 - iv) Establish/nurture linkages with sub-regional/regional energy-related initiatives (including WAPP and the OMVG), to facilitate accrual of substantial benefits to The Gambia, in energy development and utilisation;

- v) To network, as appropriate, with other countries/organisations abroad, particularly in the development of human resources, to enhance the Gambia's energy development potential, and the development and use of energy-efficient and environment-friendly technologies for national energy supplies;
- vi) Prepare list of roles for all participating institutions to ensure effective policy implementation;
- vii) Monitor each institution to ensure that there is maximum efficiency in the execution of their assigned tasks;
- viii) Conduct periodic evaluation exercises and submit reports;
- ix) Periodic reports should identify constraints in the implementation process and propose measures for overcoming the constraints;
- x) Ensure that all existing and new legislation are implemented;
- xi) Ensure effective liaison between the participating institutions, the private sector and non-government organisations;
- xii) Prepare identify funding for a comprehensive capacity-building programme for all levels in the energy sub-sectors, in collaboration with the various sub-sectors, to build a critical mass of expertise at all levels that would facilitate sustainability of energy supplies.

10.0 KEY RECOMMENDATIONS

In a deliberate attempt to realise the government's Vision 2020 for the Energy sector which is '*To ensure 100 percent access to modern energy services at affordable rates throughout Gambia by 2020*'. The following key recommendations are pivotal:

a) Building a Sustainable Energy Platform for Growth

A current electricity capacity at 2014 is put at 75MW and additional demand is projected at 135MW by the Vision year of 2020. The estimated capital cost required for this investment is conservatively estimated at between 113 – 182 million dollars.

- i. Accelerate the progressive implementation of the recommendations agreed by the stakeholders during the retreat held in 2011 foremost amongst which is policy decision to unbundle NAWEC.
- ii. Pursue alternative energy sources such as hydro under the OMVG programme and large scale solar and wind energy options with development partners.

b) Building Renewable Energy Capacity

It is recognised that Renewable Energy has the latent potential to ameliorate the energy needs of The Gambia in an ecologically and environmentally sustainable manner. Green energy should be seriously considered as a viable energy alternative having regard to its manifold advantages such as independence from fossil fuels, and zero carbon gas emissions. The Gambia has abundant sunlight which is currently not harnessed to favourably impact our energy needs. On the road to the actualisation of our Renewable Energy potential the following salient policy aspects require priority action.

- i) Encourage the establishment of centralised solar power generated plants and wind farms as opposed to stand alone solar panels on roof tops and individual wind turbines in order to benefit from economies of scale and to feed into the National Grid.
- ii) Develop the regulatory framework for a feed in tariff mechanism to stimulate in a transparent and predictable manner investments in renewable energy.
- iii) Facilitate and aggressively explore development partner investment opportunity into the Renewable Energy sector from multilateral, bilateral and foreign direct investment sources within PPP and IPP Framework Agreements.
- iv) The socio-economic spin-offs from Renewable energy will have the resultant effect of enhancing energy independence, fulfil the ‘Green’ power agenda, increase energy security, increase employment and serve as an impetus for domestic manufacturing and foreign direct investment.

c) Oil and Gas

The oil and gas industry constitutes a driving force and a veritable catalyst for a modern economy if properly explored, developed and managed in a sustainable and value chain progressive manner. In this regard, Government through the Gambia National Petroleum Company should systematically strengthen the value creating activities within the oil and gas value chain and ensure the development of an efficient, diversified and sustainable energy mix to propel the Gambia’s development aspiration under Vision 2020.

The various segments at the oil and gas industry (upstream, midstream and downstream activities) should be intensively and systematically integrated with positive forward and backward linkages for energy security and economic and ecological sustainability.

Having regard to the country’s projected economic growth target of 6 percent over the next few years there will be the urgent need to meet the exponential demand for energy going forward to 2020 and beyond in order to provide energy for businesses and an expanding population; therefore it is imperative to continue and intensify exploration activities both onshore and offshore for oil and gas. Government must therefore:

- i) Facilitate its drive to attract multinational oil companies to the sector.

- ii) Continue to expand its strategic location advantage as a sub-regional hub for oil and gas storage and distribution entrepot at Mandinary.

The successful and timely implementation of this energy policy to derive the maximum impact for socio-economic development and transformation is premised on ensuring the following salient parameters:

- Align policies coherently
- Develop clear value propositions and measurable benchmarks
- Insightful
- Provide leadership focus
- Ensure high quality monitoring (SMART) and feedback for maximum impact.