



**TERMS OF REFERENCE**

**FOR THE**

**DEVELOPMENT OF NATIONAL  
BIOENERGY ACTION PLAN FOR SIERRA LEONE**

**Supported by:**



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## 1. Background

### 1.1. Overview of the Bioenergy situation in the ECOWAS region

The energy system of West Africa is facing interrelated challenges of sustainable energy access, energy security and climate change mitigation and adaptation. Principal among the energy challenges of sustainable energy access are the widespread and unsustainable production and utilization of traditional biomass (firewood and charcoal). This high dependence of the populations on the traditional biomass continues to contribute to smoke-related health problems, deforestation and desertification and thereby affecting production and security.

According to the energy balance of the region, almost 80% of the primary total energy consumption comes from traditional biomass. In addition, over 90% of the population use wood and charcoal for domestic cooking. Wood resources are all harvested from the natural forests, often in unsustainable manner despite the existence of national forest policy frameworks in most countries. However, implementation of national policies, that are often centrally managed, are constrained in most cases by: (i) lack of necessary budgetary support for personnel and tools resulting in weak policy enforcement; and (ii) the absence of community involvement in forest management. Some of these factors have rendered the natural forest open and uncontrolled and wood resources almost free. As a consequence, there are no incentives for efficiency in the production and utilization of these resources.

In response to some of these challenges, ECREEE developed a Regional Bioenergy Strategy and a Policy to reduce the heavy dependence of the increasing populations on traditional use of biomass. These strategies can be found in the ECOWAS Bioenergy Policy document.

### 1.2. ECOWAS Bioenergy Policy

The Authority of the ECOWAS Heads of States and Government adopted the ECOWAS Bioenergy Policy on the 4<sup>th</sup> June 2017 in Monrovia, Liberia. Full text can be read on [http://www.ecreee.org/sites/default/files/ecowas\\_bioenergy\\_policy.pdf](http://www.ecreee.org/sites/default/files/ecowas_bioenergy_policy.pdf). The summary of targets are provided in the template.

ECREEE is therefore working with its partners to domesticate the regional policy in each country by assisting member states in developing their National Bioenergy Action Plans (NBEAPs). In this regard, national consultants are required to work with the Ministry in charge of Energy to develop the NBEAP.

### 1.3. National Action Plan for the implementation of the Regional Policy

In order to attain the objectives of the ECOWAS Bioenergy Policy, the following actions will be implemented:

- 1) Secure a coherent, efficient and flexible legal, institutional and regulatory framework in order to develop consistency between the regional and the national Bioenergy policies and action plans;
- 2) Each Member State has a National Bioenergy action plan and necessary budgetary requirements;
- 3) Ensure detailed resource assessment and mapping of biomass resources (including municipal, agro-industrial waste) for effective planning and investment;
- 4) Make Bioenergy technologies and services an attractive business for private investors/entrepreneurs;
- 5) Develop capacity for national officials, and technical experts on the design, implementation and operation of Bioenergy systems, value chain and applications;

- 6) Encouraging the use of bioenergy and biomass sustainability assessment tools
- 7) Work on financial Intermediation, seeking a larger involvement of the private industrial and banking sector in the Bioenergy sector;
- 8) Promote Advocacy, Awareness and Knowledge Management through various communication channels

## 2. Objectives

### 2.1. Overall objective of the assignment

The objective of the study is to:

- i. Develop specific national Bioenergy Baseline Report; and
- ii. Have the fully elaborated national action plan document and Implementation plan in harmony/line with the ECOWAS Bioenergy Policy adopted by the Authority of ECOWAS Heads of State and Government

The Regional Policy document is the first step towards aligning the national governments' Policies, legislative procedures and guidelines in a systematic approach for fostering greater public and private sector participation. It is expected that more sustainable patterns of energy production/generation, transformation, transportation/distribution and consumption would be established for the benefit of the population, especially the rural people and women in the biomass supply and demand sectors.

### 2.2. Specific objectives of the assignment

The ECOWAS Bioenergy Policy focuses on creating the enabling environment for the penetration of Bioenergy markets in the Member state by removing the barriers related to policy, legal and regulatory frameworks. It identified and set targets at Regional targets. National targets should be set harmonized with the Regional Bioenergy Policy targets. It is anticipated that the development of national targets and action plans would increase the penetration of Bioenergy intake by promoting incentive schemes for the private sector both for sustainable production of fuels and components for the systems locally and thereby increase the overall impact of the policy implementation for:

- i. diversification of energy services to the population;
- ii. increase and improve sustainable energy access and security with the provision of energy services from Bioenergy in the urban and rural areas, taking special consideration for vulnerable groups in the rural and peri-urban populations;
- iii. technology acquisition, with establishment of production plants within the country for fuels/briquettes, assembly and manufacture of energy systems and/or components;
- iv. establishing Bioenergy businesses – for design, production, construction, installation, operation, maintenance, increased socio-economic activity in production and use of Bioenergy fuels and devices/equipment, and hence increase income levels;
- v. reduction of the national energy import bills and savings on balance of payment;
- vi. increased food production that enhances energy access with due consideration to the GBEP and other sustainability Indicator (SI) in all aspects of the production and consumption cycles, with particular emphasis for the rural population, including youth and women;
- vii. utilization of waste (municipal solid & liquid wastes, agro-industrial wastes), including invasive plant species for conversion into energy; and
- viii. Application of efficiency in both the production and consumption cycles particularly in the woody biomass resources.

### 3. Description of the assignment

The following issues have to be considered:

- In the development of national action plans, the ECOWAS Bioenergy Policy and Implementation plan has to be taken into account to align the national targets in terms of pathways and target periods taking into account biomass resource availability.
- The national action plans have to explore resource and capacity requirements at institutional and individual levels in the operationalization of the document.
- Where policies exist, gaps sometimes exist and or there are inadequate policy instruments in place to achieve the overall policy objectives. As an example, it is important to consider how to accommodate Bioenergy based power generation system, either stand alone or embedded in the existing energy supply systems. Where necessary, practical issues and incentives should be provided concerning potential independent power producers (IPPs) such as applicable feed-in tariffs, technical specifications for power generation, etc. need to be addressed by current policies and regulations. In addition, there are no model power purchase agreements (PPAs) in place at national levels that would guide negotiations between national electricity utility companies and potential investors.
- Contradictions do sometimes exist between Bioenergy policies and other sector polices. As an example, whereas Bioenergy policies should seek to reduce the costs of Bioenergy equipment available in the market as a way of increasing affordability, the importation of such equipment may attract import duties that may be higher than those levied against fossil fuel based equipment. In essence, this is due to the fact that Bioenergy policies tend to be developed independently of broader development policy thrust and efforts.
- Inter-related nature of Bioenergy and other sectors such as municipalities/land, the environment, agriculture, and forestry are often over-sighted or neglected. In the planning and drafting stage, all stakeholders that relate to food and agricultural/fishing and forestry sectors, land and environment are necessary to be involved in the process;
- Energy policies often focus on matters concerning commercial energy supply, especially grid based electricity and oil products. In addition, energy issues for urban areas and peri-urban areas tend to receive more attention compared to matters concerning rural areas. For rural and remote areas, where decentralized Bioenergy systems have greater market opportunities and are competitive options for providing access to energy services, no policy frameworks are in place. Energy needs for rural areas that include mechanical power, household energy or sustainable use of biomass (as opposed to the traditional use) are often neglected. It is important to ensure that the strategies are adequate, coherent and are aligned with policies for other sectors like, land tenure, education, environment, health, agriculture, trade, industry etc.
- Sustainability in the Bioenergy sector is key to contribute to the SE4all agenda and SDGs. As the Global Bioenergy Partnership (GBEP) of the FAO (of the United Nations) has developed a set of Sustainability Indicators for the Social, Economic and Environmental criteria, it would be necessary to incorporate these indicators in the planning process for future activities in national Bioenergy project implementation;
- The greatest energy demand in the region comes from the traditional use of biomass, accounting for almost 80%. Yet the traditional of biomass is among the least regulated and formalized, thus making the policing even more challenging. This is compounded by the fact that the supply and demand of components are often managed separately and uncoordinated institutionally. Special attention should be given to this component in terms of developing a comprehensive and harmonized approach for bringing sustainability in the supply and demand components.

### 3.1. Expected outcomes

- Developed Baseline Report on the current Bioenergy situation in the country, taking into account the information and data collected and containing comprehensive situation analyses on the existing policies, legal and regulatory frameworks, institutional arrangements, use of all forms of biomass (including waste resources), including cooking energy, (see the template);
- Developed National Bioenergy targets based on the ECOWAS Bioenergy Policy targets up to 2030; and
- elaborated a national action plan document with Implementation plan detailing budgets, in harmony/line with the ECOWAS Bioenergy Policy (use the Template provided)

### 3.2. Activities

- a. Collect existing national documents from different sectors (energy, water, agriculture, land, gender, etc.) directly or indirectly related to the bioenergy sector of the member State;
- b. Make an inventory of all national stakeholders relevant to the implementation of this study.
- c. Provide Baseline Report (see Part A of the Template) with a review of the current energy situation, vis –a-vis all the Bioenergy components of the supply and demand in the member state. These include woody resources, residue (agro -industrial or municipal liquid and solid wastes, invasive plant species, etc), sustainable and modern biomass & fuels, including gasification technologies (briquettes, biogas, bioethanol) and cooking devices. Gathering of information and data through internet and meetings with selected stakeholders in the country.
  - i. Review of national policies and strategies of the energy and Bioenergy sectors to identify areas that need updating and further strengthening;
  - ii. Review existing policies on land administration, agriculture and Forestry that hinder the development of sustainable Bioenergy. Special attention should be given to any constraints on the use of non-food, feed, fiber and other uses for increasing access to energy services;
  - iii. Review the existing incentive schemes for promoting Bioenergy including Custom duties/tax on Bioenergy equipment and systems and how to provide the necessary incentives through duty/tax exemptions and other mechanisms;
  - iv. Review the already existing experience with Bioenergy Independent Power Providers and the impacts on the national economies and propose ways to improve their operations;
  - v. Review existing institutions (public, private, civil societies and other bodies) involved in the Bioenergy sector and provide an institutional arrangement. Provide a profile on their operations with detailed list, contacts and background and any revised institutional arrangements that can improve the operationalization of the sector.
- d. Baseline Report in the Bioenergy sectors should take into account:
  - i. laws and regulations that create a level playing field for various fuels, technologies and devices in relation to fossil-fuel based systems;
  - ii. Adequate consideration should be given to use of Bioenergy resources to satisfy national and regional demands prior to any consideration to export. Alternate option is to produce enough sustainably for meeting national demand and export;
  - iii. Special consideration to rural communities, youths, gender and people at disadvantage for local production and consumption with special incentives;
  - iv. Grid-connection and off-grid generation of large and small scale Bioenergy electricity generation,
  - v. Bioenergy sources for off-grid and mini-grid systems, including hybrid systems;

- e. Draft the national Bioenergy targets to achieve the regional targets (see Part B: national Action Plan): In drafting these documents, the consultant is advised to complete all the tables in Part B of the Template, which include but not limited to:
- Broad policy goals with proposal for national targets of penetration for the entire sector;
  - Comprehensive action plan for the implementation of the national Bioenergy goals/Strategy containing specific recommendations for increasing the Bioenergy penetration rates:
  - The action plans should cover short, medium and long term and should have an operational plan with responsibility and budget;
  - Identify opportunities for energy production across the entire socio-economic spectrum of the country using Bioenergy;
  - Provide guidance on incentive schemes such as duty concessions, grants, feed-in tariffs, mandatory codes, Renewable portfolio standards (RPS) or renewable obligations, or quotas and fiscal measures to promote and encourage Bioenergy electricity generation, clean and efficient cooking and heating solutions, energy efficiency and conservation in production and consumption of bioenergy resources and equipment;
  - Identify the various available supply options and consider what contribution each could make in the move towards a diversified energy supply and improved energy security
  - Propose a Monitoring system of implementation of national bioenergy actions plan

#### 4. Proposed chronogram and methodology

The development of the Action Plan document is expected to take about 35 working days, starting with a kick-off meeting. A tentative chronogram and logic of interventions to be submitted by the consultant is below:

- the inception report to the member state and ECREEE for validation after the kick-off meeting (1 day). It will include, among other things: (2 days)
  - list of documents and information needed to analyze the current situation in the member state in terms of Bioenergy policies and regulatory frameworks
  - the identification of the stakeholders and a provisional calendar of meetings with them;
  - the detailed methodology of the study
  - the general plan of the document (for any improvement)
- Data and information collection, consultation and interviews from stakeholder institutions; (10 days)
- Draft Baseline Report with analysis of the current bioenergy situation with regard to policies, institutional and regulatory framework, activities, financing, gender mainstreaming, etc., (5 days). This should be submitted to the Member state and ECREEE for review;
- Final Baseline Report incorporating comments from stakeholders; (2 days)
- first draft National Bioenergy action plan document (9 days) prior to submission to the member state and ECREEE for review;
- second draft of the Draft National Bioenergy Action Plan incorporating comments of the member state and ECREEE prior to the validation workshop; (3 days)

- Organize a national consultative workshop with key stakeholders discussing the second draft. Improve the document with comments from the workshop observations; (1 day)
- final draft of the National Bioenergy Action Plan (in hard 5 copies and electronically) to the member state for their political action. (2 days)

## 5. Deliverables and Reporting

- 5.1 List of documents and information/data needed to analyze the current situation in the member state in terms of Bioenergy policies and regulatory frameworks
- 5.2 Inception report
- 5.3 Baseline Report with analysis of the reviewed information/data of the current situation in policies and regulatory frameworks
- 5.4 All draft documents and the final drafts for the Action Plan. The action plan documents will be drafted according to the template attached to the ToR;
- 5.5 Workshop report

The consultant will submit to the authority in the member state 5 hard copies and an electronic copy of the final document in the Template (Baseline Report and the action plan) in the official language of the member state and also send an electronic copy to ECREEE.

## 6. Qualification Requirements

The Consultant (national firm including team members) will include the following profile:

### Lead consultant

- Key staff should have a master degree or higher in energy, economics, science or any related field;
- At least 10 years of experience at the strategic level and high level engagement in strategic planning activities in the energy sector;
- At least 3 similar assignments undertaken
- In-depth knowledge and experience in Bioenergy, policy-making, and legal and regulatory aspects,
- High level professional qualification in engineering, political science, economics, business or other relevant subject,
- Consulting experience in the public and private sectors;
- Ability to undertake research and lead strategic dialogue on key development issues;
- Ability to coordinate inter-disciplinary teams and manage complex assignments in a multi-cultural setting;
- Strong problem solving, research, analytical, writing and people leadership skills;
- Excellent communication skills;
- An excellent understanding of the global energy economic, particularly Bioenergy, business and political landscape and the unique developmental challenges facing Africa in general and the ECOWAS region in particular.

Other members of the team will have similar background and with professional qualifications and experience to complement the team leader. Data acquisition and analysis skills will be important.

In addition, the consultant is expected to have in-depth knowledge and experience in Bioenergy, policy-making, strategic planning and legal and regulatory aspects.



Understanding of Bioenergy or previous work related to it is an advantage.

## 7. Language of Work

The consultants must have the capacity to work in the official language of the country: English, French or Portuguese.

## 8. Evaluation Criteria

The Consultant Team must be fluent in the official language of the country the study is being implemented: English, French or Portuguese.

Proposals will be evaluated based upon the following criteria:

1. Technical Approach: The technical approach described in the proposals will be evaluated on:
  - a. Demonstrated understanding of the overall project context;
  - b. Detailed work plan and approach clearly defining the target objectives and the strategy to achieve the objectives as outlined in the Description of the Assignment.
2. Management Structure and Staff Qualification: The proposed management structure and staff will be evaluated based on:
  - a. Professional qualifications and the extent to which the requisite expertise and experience of the key personnel will directly contribute to the completion of the tasks
  - b. Extent of the collaboration proposed with qualified contractors local to the ECOWAS region.
3. Past Performance and Corporate Experience: The experience and capacities of the contractor will be evaluated based on:
  - a. Past performance, familiarity, and experience in understanding policies and programs related to Bioenergy Strategies, policies, legal and regulatory issues in the member states;
  - b. Extent of local expertise including experience, qualifications, and track record in implementation of similar programs in Africa and the region.
4. Total Cost: While the overall Technical Evaluation is the key factor in reviewing the proposal, the financial proposal must be competitive and will be evaluated for feasibility, completeness, and practicality. A detailed estimate of travel and local expenses is required with the financial submission.

Proposals will be evaluated using a Quality and Cost-Based Selection (QCBS) method, with weights of 80 percent towards project proposal quality and team and organization experience, and 20 percent towards proposed costs. Additional information or request for clarifications can be enquired from ECREEE ([bioenergy@ecreee.org](mailto:bioenergy@ecreee.org)).

## 9. Conditions and terms of Payment

Payments shall be made according to the following schedule:



- 15% upon signing the contract and presentation of the work plan at the kick off meeting with complete list documentation requested
- 35% payment after submission of the draft Baseline Report with all the data related to the assignment and the request for payment;
- 40% payment after submission of first draft National Action Plan and the request for payment;
- a maximum of 10% payment after completion of all tasks and approval by member state and ECREEE and submission of the final report and request for payment;

## **10. Application Process and Deadline**

The offer comprising of technical proposal and financial proposal should be sent to [tender@ecreee.org](mailto:tender@ecreee.org) no later than (See Procurement notice). Please attach CV and certificates.

## **11. List of documents for reference**

Refer to Section 9 of the Template (ARTICULATION WITH REGIONAL INITIATIVES)