

## TERMS OF REFERENCE

### Individual Consultant

To

**Identify of Priority Nexus (Water-Energy and Food)  
Projects in ECOWAS Member and support the Team Lead  
developing the ECOWAS Renewable Energy and  
Energy Efficiency Master Plan**

**August 2025**

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**Type of contract:** International Individual Consultancy (Nexus Expert)

**Expected Start Date:** Immediately after Signing the Contract

**Duration of Assignment:** Six (6) months

**Duty Station:** Home based with at least (x2) travel to the project area.

## 1. INTRODUCTION

### 1.1. Partner countries:

Economic Community of West African States (ECOWAS) Member States

### 1.2. Type of contract:

International Consultancy

### 1.3. Contracting Authority:

ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE)

### 1.4. Background Information:

#### 1.4.1. ECOWAS Energy Sector

The energy sector in the ECOWAS region faces systemic challenges that must be addressed to achieve SDG 7 (universal energy access) while ensuring synergies with water and food security under the WEF (Water-Energy-Food) nexus. Despite abundant renewable resources (solar, wind, hydro, biomass), approximately 180 million people lack adequate electricity access (2022), with stark urban-rural disparities. The region's reliance on imported fuels and inefficient grid infrastructure (21.5% technical/commercial losses) exacerbates vulnerability to external shocks, including climate-driven water scarcity that impacts both hydropower generation and agricultural productivity. Heavy dependence on traditional biomass for cooking further strains forests and food systems, deepening land degradation.

In order to address these energy challenges of the West African region and to pool efforts to exploit the region's abundant natural resources, ECOWAS has established ECREEE to promote renewables and improve efficiency along other agencies. However, a siloed approach risks overlooking critical WEF interdependencies, e.g., large-scale solar projects competing with farmland or hydropower dams altering water availability for irrigation. ECREEE's mandate must expand to explicitly address these trade-offs, ensuring energy solutions:

1. Prioritize decentralized renewables (e.g., solar mini-grids) to reduce pressure on grid connected utilities, water resources versus fossil-fuel or large hydro projects.
2. Promote productive-use technologies (e.g., solar-powered irrigation, agro-processing) to strengthen food security while electrifying rural areas.
3. Scale clean cooking solutions to curb deforestation and improve health.

The region's short-term reliance on fossil fuels for economic growth must be balanced with long-term WEF nexus strategies. ECREEE can lead this transition by aligning energy policies with the ECOWAS Agricultural Policy (ECOWAP) and Water Resources Management Strategy, ensuring energy investments bolster, not undermine water and food systems. The ECOWAS region has the potential to make this leap without compromising development goals for its people. Reducing dependence on fossil fuels while ensuring equitable and sustainable development has been an enduring vision of member states, opening up opportunities for energy efficiency (EE) and renewable energy (RE). This is where ECREEE has a crucial role to play.

#### *1.4.2. Status of ECREEE and its Energy Efficiency and Renewable Energy Initiatives*

ECREEE was legally established by ECOWAS in 2008 at the 61st Session of the ECOWAS Council of Ministers, held in Ouagadougou on 29 November 2008, through Regulation C/REG.23/11/08. This Regulation provided the legal basis for the establishment of the ECREEE in 2010 in Praia, Cape Verde, with the support of the Austrian and Spanish Governments and the technical assistance of UNIDO, following the signing of the Headquarters Agreement between ECOWAS and the Government of Cape Verde. Against this background, ECREEE's legal mandate is to develop and promote RE and EE in the region. To achieve its objectives, ECREEE has

- I. Developed and initiated, inter alia, (i) the ECOWAS Energy Efficiency Policy (EEEP); (ii) the ECOWAS Renewable Energy Policy (EREP); (iii) the ECOWAS Bioenergy Policy (EBP); (iv) the ECOWAS Hydrogen Policy (EHP); (v) the ECOWAS Mobility Programme; (vi) the ECOWAS Gender Mainstreaming in Energy Access Policy; and, finally, the West African Clean Energy Corridor Programme.
- II. Assisted ECOWAS Member States to adopt and implement several action plans to achieve the key milestones of the objectives set out in these policies and through the judicious implementation of these RE and EE action plans, projects and programmes, ECREEE has today become the focal point for RE and EE in the ECOWAS region. It coordinates the efforts of various stakeholders, builds the region's internal capacity in RE and EE, works with governments to harmonise and implement these policies, develops RE and EE programmes, and mobilises resources from around the world for RE and EE projects.

Despite these efforts, which have advanced the region in terms of RE and EE, the region still has the lowest rates of access to electricity today, with around 53% of the population and 10% of rural dwellers having access to electricity in 2023. This calls for a redoubling of efforts by energy sector agencies including ECREEE. ECREEE therefore intends to increase support to Member States for the development of RE and EE projects and programmes with high socio-economic impact in off-grid and on-grid areas through the operationalisation of its Strategic Plan . At the operational level, the areas of the Strategic Plan will be broken down as follows:

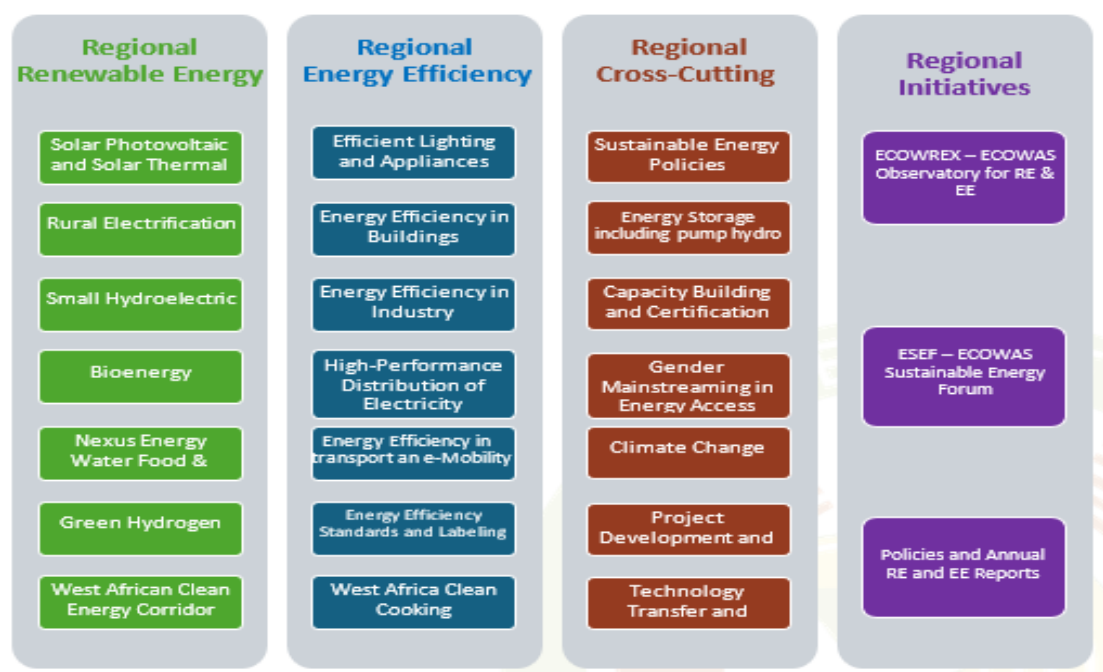


Figure 1: Areas of operationalization as part of the 2023-2027 Strategic Plan

Ensuring equitable access to renewable energy for peri-urban and rural populations and food and nutrition security constitute priority areas for the AECID-ECOWAS alliance. Subsequently, this question constitutes a core sector in the Spain-ECOWAS Cooperation Programme 2025–2028, contributing to the ECOWAS vision 2050 through the effective implementation of ecowas renewable energy policies.

Specifically, the AECID-ECOWAS cooperation program involves a joint commitment to scaling up and accelerating initiatives that address the region’s need to maintain the incorporation of the productive uses of renewable energy and energy efficiency in food and water production. This approach, also known as the water–energy–food (WEF) nexus, is one of the key elements of ECREEE’s strategic plan.

Additionally, with support from the Commission, ECREEE plans to develop an ECOWAS RE and EE Master Plan and Pipeline of Projects. This initiative will guide ECREEE’s interventions, enhance project bankability for Member States through pre-investment studies, and facilitate full investment realization across the region. In the framework of the review process of this Infrastructure Master Plan, which will serve as the strategic framework for the development of regional infrastructure, ECREEE will develop a specific 10-year master plan, identifying priority projects in the field of renewable energy and energy efficiency, including WEF priority projects.

The Plan will inform ECREEE’s work in project preparation for member states and its integration into the wider ECOWAS infrastructure master plan. This Plan covering the period 2026–2036, will be incorporated in the Master plan which will be submitted for endorsement by the Heads of State and Government and will form an integral part of the ECOWAS Strategic Infrastructure Plan.

**Therefore, to support ECOWAS and ECREEE in defining a framework to guide future investments in sustainable energy infrastructure projects, an Individual Consultant with expertise in Nexus and knowledge of Energy Efficiency will be recruited. The consultant will support to the Project Manager (Lead Consultant) responsible for developing the 10-year ECOWAS RE and EE Master Plan and Pipeline of Projects (2026–2036) that will be presented for validation by Experts and adoption by the Authority of Heads of State and Government. The adopted Master Plan of ECREEE will be included in the ECOWAS Strategic Infrastructure Master Plan led by PPDU.**

## 2. OBJECTIVE, PURPOSE, EXPECTED RESULTS & DELIVERABLES

### 2.1. Overall objective

The overall objective is to support West African countries in the development and promotion of mid- and large-scale public and private sector energy investments, including infrastructure, that also address nexus priority projects for food production and water, irrigation solutions across the region.

In this context, ECREEE seeks to recruit an Individual Consultant that will work with the lead consultant and identify portfolio of projects that incorporate the water–energy–food (WEF) nexus in renewable energy and energy efficiency projects either as part of the existing identified project or around the Energy Efficiency (EE) and Renewable Energy (RE) priority projects submitted by stakeholders as part of the Master Plan of Member States. The consultant will identify physical infrastructure and transformative investment projects, but also soft interventions around sustainable energy (which is ECREEE’s mandate) with agriculture and water management relevance for the master plan. Projects will be assessed based on among others:

- Technology type (e.g. solar, hydropower, biomass etc.)
- Nexus relevance (how energy, water, and food are connected)
- Financing and resource mobilization mechanisms (public, private, or blended) (a chapter of the plan)
- Reported impact (e.g. energy access, food production supported, CO<sub>2</sub> savings)
- ESG elements (gender, social inclusion, job creation potential)
- Geographic balance

In addition, and under the supervision of the Project Manager (Consultant) who is responsible for preparation of the infrastructure master plan for ECREEE, as well as Executive Director and the Directorate of Operation, which include all AECID funded staff), the consultant will provide strategic inputs to the design of the Master Plan which will constitute a multi-annual work program aligned with regional priorities for the acceleration of the use of renewable energy and energy efficiency for water and food production in West Africa.

*NB: The Plan will be categorized for short (0-3 years), medium (3-6 years) and long terms (6-10 years). This Plan will enable the various stakeholders in the region (public authorities responsible for RE and EE including Ministries, utilities, donors, private sector, ECOWAS officials, etc.) to have a clear, comprehensive and coherent vision of the future development of EE and RE and Nexus projects in terms of investment and pre-investment needs.*

### 2.2. Purpose and Tasks

The specific objectives of the activities are:

- A. Task 1:** Collect data from Member States including Master Plan, projects approved as part of investment plan of Member States and through literature review of plans of the various sectors conduct a rapid stock-take of RE and EE investment and infrastructure priorities.

*NB: The projects should be renewable energy and energy efficiency oriented and tackle challenges regarding economic, environmental, social, energetic and agricultural fields. These projects should take into account, inter alia, the following Master Plan of Member States, ECOWAS, WAPP and policies developed by ECOWAS/ECREEE:*

- *ECOWAS Energy Policy that was adopted in 2023 taking into account new institutional arrangement as well the period of implementations proposed with the view of addressing*

*the new challenges facing the region, in particular, the fight against poverty, global warming, poverty reduction, universal access to energy services and sustainable development.*

- *ECOWAS Energy Efficiency Policy (EEEP), adopted in July 2013 has inter alia following targets: phase out inefficient incandescent lamps, by 2020; reduce average losses in electricity distribution from the current levels of 15 - 40% to the world standard levels of below 10% (supply and demand side), by 2020; achieve universal access to safe, clean, affordable, efficient and sustainable cooking for the entire population of ECOWAS, by 2030; develop and adopt region standards and labels for major equipment by 2020; develop and adopt region-wide efficiency standards for buildings (e.g. codes); and create instruments for financing sustainable energy, including carbon finance.*
  - *ECOWAS Policy on Renewable Energy, adopted in July 2013 has inter alia following targets: increased market penetration for renewable energy connected to the network, to 10% for the future 2020 strategy and to 19% by 2030 strategy (even without taking into large hydroelectric power generation);*
  - *ECOWAS Bioenergy Policy has inter alia following targets for the modern bioenergy sector: increasing the share of population using alternative modern fuels for cooking to 41% by 2030 and efficient charcoal production increase to 100% by 2030.*
  - *ECOWAS Policy for Gender Mainstreaming in Energy Access has inter alia following targets: ensure that women and men have equal (50.50) opportunities to enter and succeed in energy related fields in the private sector by 2030.*
  - *ECREEE Strategic Plan (2024-2027) as well as Projects and programmes on Battery Energy Storage Systems (BESS), ECOWAS Electric Mobility, West African Clean Energy Corridor and Pumped Storage, ECOWAS Hydrogen Policy.*
  - *Action Plans of countries and other projects implemented by Donors including AfDB, World Bank, KfW, GIZ, UNIDO with ECREEE or other sector agencies at regional or national level.*
- Engage ECOWAS centres in charge of Agriculture and Water*

- B. Task 2: (i) Support the team lead in the** using a participatory methodology and taking into consideration the priorities of ECREEE as well as other ECOWAS agencies, identify a long-list of potential and priority RE and EE projects including WEF projects in each ECOWAS Member State, ensuring both geographical, technical and sectoral balance, **(ii) Support the conduct a stakeholder mapping of potential financial partnerships including interviews to assess their investment priorities and eligibility criteria of potential WEF projects, (iii) Support the team lead to propose a prioritization matrix for the selected RE and EE projects and project categories to guide their inclusion in the Master Plan, (iv) Support the development of a project sheet template and conclude together with the ECREEE Master Plan Project Manager projects including those specific the WEF nexus approach, (v) Complete the part of the Plan on financing and fund mobilization modalities for the proposed actions (e.g., public investment, public-private partnerships, private).**

To ensure full alignment with ECREEE's strategic objectives, the Master Plan will incorporate a comprehensive portfolio of projects across the following key thematic areas, with technical specifications and implementation targets where applicable. Around the RE and EE projects identified for the Plan; define nexus projects including the followings:

### **Renewable Energy Nexus Projects**

- *Solar Energy Nexus related Projects*
  - *Solar-powered irrigation (up to 100 hectares under management)*
  - *Decentralized (1-100kW) and utility-scale (1-100MW) solar PV systems*



- *This initiative focuses on promoting solar thermal energy*
- **Hydropower Development Nexus related Projects**
  - *Run-of-river and mini-grid hydro projects (up to 100MW capacity)*
- **Bioenergy Solutions Nexus related Projects**
  - *Biomass/biogas plants (up to 100MW) for agricultural waste valorization*
  - *Waste-to-energy facilities for urban/rural electrification (up to 100MW)*
- **Green Hydrogen Nexus related Projects**
  - *Pilot production plants (up to 5MW electrolyzers) for transport/industrial decarbonization*
- **Rural Electrification Nexus related Projects**
  - *Hybrid mini grids (solar/wind/hydro/bioenergy, up to 500kW)*
  - *Standalone solar systems for healthcare/education facilities*
- **Circular Economy Projects**

#### **Energy Efficiency Nexus Projects**

- *Efficiency upgrades for agricultural pumps using solar or electric motors*
- **Resource Efficiency Nexus related Projects**
  - *E-Mobility Transition Nexus related Projects*
  - *Circular economy waste valorization*
- **Clean Cooking Access Nexus related Projects**
  - *LPG/ethanol distribution networks*
  - *Improved cookstove programs (up to 1 million households)*

- C. Task 3:** (i) Support the Lead and contribute to the development of a comprehensive RE and EE including Nexus investment and pre-investment framework, (ii) Prepare detailed project sheet and accompanying a financial memo for each proposed project, including an implementation timeline and KPIs, including ESG components.

*NB: The detailed Project Information Sheets are expected with key information, such as investment details, market data, cost estimates, and environmental/social impact data. This will help funders conduct an initial assessment. This could be done for at least the priority projects. ECREEE may provide a template or review proposals from consultants for this task.*

- D. Task 4:** Support the Team Lead in the preparation of the Master Plan report, validation and adoption by Member States.

- E. Task 5:** Provide technical support to the ECREEE team in finalization of the Plan, its adoption by ECOWAS and preparation of a work plan aligned with project goals and timelines. Assist in the drafting of a formulation document (technical and budgetary) in accordance with the AECID template and guidelines

### **2.3. Results to be achieved by the Consultant**

The expected outcome of the study is to develop a detailed Master Plan RE and EE pipeline of projects under the consulting firm of the lead individual consultant including Nexus projects. The specific expected results are as follows:

**Output 1:** An assessment identifying country-specific and regional challenges, RE and EE priorities and opportunities related to the WEF nexus. The output shall identify high potential project categories that the team lead will include into the ECOWAS and ECREEE Master Plan.

**Output 2:** An intermediate output detailing (1) nexus project priorities per country; (2) available funding and nexus project categories, including a map of private and public funding actors and; (3) a



prioritization matrix for the selection of projects based criteria approved by the team lead and (4) a long-list of possible projects out of which final list will be selected. The document shall include a definition of a project sheet, including specific KPIs, financing strategy, ESG components.

**Output 3:** Detailed project sheets in the format agreed for the selected nexus projects with the Master Plan project manager, including a comprehensive implementation strategy per project, including capacity-building measures, preliminary financial model, and stakeholder engagement plans

**Output 4:** Submission of Project documentation to the Team Lead, including detailed technical content implementation strategy and indicative budget.

## 2.4. Deliverables

The expected deliverables are as follows:

- Deliverable 1.1 - Inception Report: Write with the Team Lead and submit after the kick-off meeting with Member States including ECREEE, AECID, PPDU, WAPP on the Master Plan. The report will outline the consultant's critical understanding of the assignment, proposed methodology and coordination mechanisms (Completed).
- Deliverable 1.2 – Data Collection and Stock-take Report: Write with the Team Lead a Summarized finding of Master Plans, investment plans of Member States, and an assessment of the WEF nexus development landscape, with emphasis on bankable RE+Nexus and EE+Nexus projects that include productive use of renewable energy for food and water per country. The report includes a mapping of key actors, programs and funding sources.

### Deliverable 2.

- Deliverable 2.1 – Together with Master Plan Project Manager prepare the Draft and Intermediate Project Report in the standard format agreed with ECREEE, detailing a long list of project options and funding sources and potential impact. The document shall include but not limited to, at least, the following annexes:
  - Annex 1. Inputs to the ECREEE Master Plan, including prioritization matrix, project sheet and implementation timelines;
  - Annex 2. A financial scoping report, outlining key possibilities for resource mobilization.

### Deliverable 3.

- Deliverable 3.1. Draft Investment and Pre-Investment Framework, including 10-15 detailed project sheets (10-12 priority projects), memos, and implementation matrix. The document shall include but not limited to, at least, the following annexes:
  - Annex 1. A Resource mobilization strategy identifying national and regional funding institutions.
  - Annex 2. An implementation strategy, including capacity-building measures and stakeholder engagement plans

### Deliverable 4

- A Project Document for the establishment in ECREEE a specialized WEF facility for project preparation and development, including detailed work plan, and budget in the AECID format.

NB: The Nexus Consultant will focus primarily on Nexus and Energy Efficiency projects, while also supporting the Team Lead in carrying out the overall assignments.

### 3. ASSUMPTIONS & RISKS

#### 3.1. Assumptions underlying the project

The Specific risks and mitigating measures for the project are:

Risks/Assumptions	Mitigation Measures
Outbreak of disease in any of the West African countries	Support from the ECREEE National Institutions and Stakeholders in the countries to collect relevant data
Political and social instability in the sub region	This is less likely. ECOWAS is likely to resolve political crisis timeously. However, in case this persist for longer than expected there might be a revision of the timetable for implementation
Stakeholders not cooperating with Consultant	ECREEE will intervene through organisational committees to resolve any difficulty

### 4. SCOPE OF THE WORK

#### 4.1. General

##### 4.1.1. Description of the assignment

The consultant shall support, provide inputs to the development a "ECOWAS Energy Efficiency and Renewable Energy Master Plan" and work with the Lead to enable the various stakeholders in the region to have a clear, comprehensive and coherent vision of the future development of on-grid and off-grid facilities in terms of investment and pre-investment needs and provide a rational basis for decision making and implementation.

**Several RE and EE projects including WEF Nexus projects have been identified through studies, master plans and action plans and, in many cases, specific studies have already been approved by Ministries, Governments etc or that have past some stages preparation (pre-feasibility) or planned at national level. The Individual Consultant should, in first place, focus on these pipelines and projects already developed and provided by the countries and only propose new projects on a reasonable basis.**

##### 4.1.2. Geographical area to be covered

The project will cover all ECOWAS member countries.

#### 4.2. Specific work

The various actions to be undertaken in the course of this assignment include:

- A. To take stock of the implementation of Action Plans, Master Plans, ECREEE Strategic Plan and evaluate their evaluation status and key lessons learnt. Based on this assessment, the consultants will develop a methodology for creating a robust project pipeline and formulating both investment frameworks and pre-investment/investment plans;

- B. To take into account, investigate and select pre-identified RE and EE projects including the WEF Nexus while also identifying new potential projects that may require pre-investment support across the region. Identify projects covering the areas described in figure 1. Special attention will be given to Energy Efficiency projects aimed at reducing commercial losses for utilities, particularly those focusing on customer service reorganization, network digitalization, geographical tagging, integrated metering and billing systems, and related training programs.
- C. For selected projects, the consultants will prepare an assessment for its implementation with various stakeholders, including utilities, regulatory bodies, and relevant ministries (agriculture, water, energy) which will be characterised in short project profiles. These profiles will clearly distinguish between investment ready projects and those that require technical assistance for their pre-investment needs, this may include but not be limited to:
  - i. Project background description
  - ii. Project proposing entity
  - iii. Lead project development partner
  - iv. Other project development partners
  - v. Total project amount /cost
  - vi. Project timeline
  - vii. Potential financial partners
  - viii. Maturity of the project
  - ix. Strategic alignment and regional dimension of the project
  - x. Economic and financial aspects
  - xi. Environmental and social impact
  - xii. Risks

Project Profile/Fiche are also needed as part of this deliverable. The Profile/Fiche should include elements listed in the Annex 1

Projects shall cover relevant nexus, renewable energy (RE) and EE project categories (large, small to mini scale). Both EE and RE should cover the areas of operationalisation outlined in the ECREEEE Strategic Plan.

It should include but not limited to the nexus, renewable energy corridors of West African Clean Energy Corridor (WACEC) initiative in the region:

- i. the Hydropower Corridor projects (small);
  - ii. the Solar Energy Corridor projects;
  - iii. the Wind Energy Corridor projects.
  - iv. Pico/micro hydropower projects
  - v. Small/ mini-grid/micro/pico solar energy projects
  - vi. Energy Water for Food projects.
- The identified nexus, RE and EE related projects should cover the areas of operationalisation outlined in the Strategic Plan of ECREEE and the fields of development in industry including utilities, etc should include but not be limited to:
- i. Grid optimisation, pre-paid meters, application of smart meters, demand management, smart grids;
  - ii. Digitalisation of processes (billing, payment and management);
  - iii. Energy quality and reliability;
  - iv. Financing of e.g. complementary IT-tools for financial management, accounting, warehouse, planning and sales & marketing etc;
  - v. Steps towards implementation of “Smart Grid” technologies in view of e.g.:

- Furnishing of e.g. distribution transformers with low-cost temperature, oil level and current sensors connected via GSM allowing online tracking of the performance and allowing immediate interference in case of violating pre-set reference values;
  - Optimising network performance by harmonizing energy demand and generation;
  - Dispatching of RE power plants having their typical performance pattern; Improve anticipation of the demand and means to control the demand.
- Productive use of energy and energy saving;
- Energy efficiency in industry
  - Energy efficiency in buildings
  - Efficient lighting and appliances
- D. Ensure that the RE and EE projects including Nexus to be identified should comply with the following requirements: (i) Prioritizing of projects in national strategic documents; (ii) reduce greenhouse gas emission; (iii) contribute to improve social inclusion and gender equality; categorized higher than “B” in terms of environmental and social impacts (E&S Categorisation).

#### 4.2.1. Data/Information on EE and RE Projects Collection

- i. The first stage of data collection will enable the Individual consultant to, among others gather to request countries to share their programs and approved projects including all other existing relevant documentation in Member States on policies and actions plans. ECREEE in collaboration with other partner agencies will facilitate and provide the first data collection for the consultant.
- ii. The second stage of data collection (Desktop) consists of consulting documents relating to the subject matter available such as policies, plans and projects documents and filling the gap. These documents will enable the Consultant to understand and internalize the vision, mission, strategy, programs and action plans of the region.

#### 4.2.2. Analysis and Diagnosis of EE and RE Projects

The Individual Consultants will

- i. take stock of the progress of the various RE and EE projects including Nexus in relation to the implementation timeframe (10/15 years).
- ii. Identify challenges and critical factors affecting the development of EE and RE and Nexus projects in member states and reasons why these projects have not been implemented
- iii. Carry out a critical diagnostic analysis to identify practical solutions to these challenges and propose how these projects can be moved forward. Propose the projects now as existing (original) or new projects (improved) based on recommended lessons learned.
- iv. Select mature a list of WEF nexus, RE and EE projects based on above mentioned criteria, investments projects and identified or new projects that need pre-investment support in the region.

#### 4.2.3. Identification of priority Nexus, EE and RE investment programme

- i. identify, in cooperation with stakeholders, which specific nexus, EE and RE projects are critical and part of the master plan of the ECOWAS country, and propose an implementation strategy of the projects, taking into account, inter alia, political and financial constraints.

- ii. determine the scope and content of the project, including the economic and financial analysis, implementation strategies and conditions for pre-investment financing and institutional and improvements to facilitate the implementation of the projects and the classification of the projects as technical assistance and investment projects and the year of completion of their implementation.
- iii. It is required to perform a brief cost/benefit analysis to determine the economic and financial profitability of the selected project.

#### 4.2.4. Development of strategies for implementing and raising the required funding

- i. recommend investment guidelines and implementation strategies for the priority investment EE and RE projects including strategies for the mobilization of funds .

### 4.3. Project management

#### 4.3.1. Responsible body

ECREEE shall be responsible for the management of the project. ECREEE (Directorate of Operation team) will be involved in the project and report to the Executive Director of ECREEE who shall, together with the Principal Programme Officer EE, collaborate closely with the stakeholders and the consultant.

#### 4.3.2. Management structure

ECREEE will work with the ECOWAS Directorate for Infrastructure, Energy and Digitalisation to ensure that the final master plan is approved by the highest decision-making body within ECOWAS. The review and adoption of the various reports will take place during a meeting of experts, including experts from the Ministries of Energy of the ECOWAS Member States, utilities, rural electrification, RE & EE agencies. It's expected that the adopted master plan of project pipelines will be submitted to the ECOWAS Council of Energy Ministers for recommendation to the ECOWAS Heads of State and Government for approval.

#### 4.3.3. Obligations of the Consultant under the supervision of the team lead

The Individual Consultants shall undertake to:

- i. Assume entire responsibility for assignment and data collection;
- ii. Undertake the study in accordance with internationally accepted norms and standards with the support of qualified and experienced staff according to the purposes of the study;
- iii. check the consistency of projects, data and information collected during the execution of his assignment;
- iv. Conduct the study diligently and in conformity with proposed and agreed implementation schedule. He shall submit reports in timely manner;
- v. Support document acquisition costs including maps, software, data and their processing;
- vi. Maintain the confidentiality of information and results obtained in the course of the study and upon completion of study return documents placed at his disposal;
- vii. In any event, the Consultant shall make every effort to maintain a permanent communication with ECREEE in the course of the study.

## 5. LOGISTICS AND TIMING

### 5.1. Start date & Period of implementation of tasks

The period of implementation of the contract will not exceed **51 person-man-day** from commencement date.

The Consultant work with the team lead and both shall propose in the submission a detailed implementation schedule for the study. In this regard, the following indicative schedule is proposed:

<b>Milestones</b>	<b>End Dates</b>
<u>ECREEE provides data (1st stage) to the consultant</u>	
<b><i>kick-off meeting (Video Conference)</i></b>	So
Deliverable 1.1 - Inception Report: Submitted	So + 01 weeks
Deliverable 1.2 - Stock-take Report	So + 4 weeks
Deliverable 2.1 – Intermediate Project Report (inc. annexes	So + 7 weeks
<u>Deliverable 3.1. Draft Investment and Pre-Investment Framework</u>	So + 10 weeks
Deliverable 4. Project Document	So + 14 weeks
Validation and adoption meeting of the Energy Master Plan of Pipelines of Projects ( <b><i>In-person</i></b> )	So + 16 weeks

## 6. REQUIREMENTS

### 6.1. Key expert

The profile of the key expert for this contract are as follows:

Nexus Expert Technical Criteria:

- A master's degree in renewable energy or energy efficiency or related field
- At least 10 years of professional experience including at least two Master Plan preparation
- At least 5 years of professional experience planning energy projects and experience working in Africa
- Familiarity with energy efficiency projects as well as an excellent understanding of regional context
- At least 5 years of experience in project preparation and project finance
- He/She must have led at least asimilar WEF nexus studies.
- He/She should have a good command of English or French.

## 6.2. Criteria for Selecting the Best Offer

Upon the advertisement of the Procurement Notice, qualified is expected to consultant is expected to submit:

- a signed cover letter,
- Technical including CV (max 20 pages, this needs to contain experience with firms in a standard reference template format) and
- Financial Proposals (max 5 pages).

Accordingly, the consultant will be evaluated based on Cumulative Analysis as per the following scenario:

- Acceptability and Eligibility (completeness)
- Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation. In this regard, the respective weight of the proposals are:
  - a. Technical Criteria weight is 70%
  - b. Financial Criteria weight is 30% (Only successful candidates that have the technical pass marks' financial will be considered)

Criteria	Weight	Max. Point
Technical Competence (Section 6.1))	70%	100
		70
Financial (Lower Offer/Offer * 100)	30%	30

**This Expert will support and work with the Project Manager to produce one deliverable as a Team of Individual Consultants.**

## 7. REPORTS

### 7.1. Reporting requirements

The deliverables shall be prepared and submitted in collaboration with the project manager and will include the preparation and submission of documents and reports within the deadlines set. The said documents and reports shall be prepared in French or English but translated into the other language and submitted to ECREEE. ECREEE will distribute, within a specified timeframe, the reports to stakeholders.

**The proposed meetings and workshops are:**

- The kick-off meeting (tbc if in person or virtual)
- Experts meeting for consideration and adoption of report on priority projects identified **(3 days of work In-person).**
- Validation and adoption meeting of the preliminary version of the Master Plan **(3 days of work In-person).**

**The cost of participation in the meetings of the consultant will be covered by the project (Air Ticket, Accommodation, Meals and Per Diem).**

Meeting in-person will be held in one of the cities of the region, the specific choice of which will be decided on a provisional basis.



## 7.2. Report

**The Consultant will work under the guidance of the Team Lead, who will present the report on the Master Plan of Pipeline Projects as part of his or her firm.** All reports will be delivered in a format (with cover page, text layout and page setup) acceptable to the Client and submitted as follows:

❖ **In draft and provisional version**

MS Word and PDF electronic version in French and English sent to ECREEE.

❖ **In final version**

MS Word and PDF electronic version in French and English to be submitted to ECREEE.

## 8. MONITORING AND EVALUATION

Since outputs and deliverables are clearly defined in the present ToR, quantitative indicators are not necessary. However, the ECREEE will ensure that the quality is met.

## 9. SPECIAL REQUIREMENTS AND NEXT STEPS

The final Master Plan will further be submitted for adoption and approval at ECOWAS level. This final document will need to go through adoption by the ECOWAS Energy Ministers, ECOWAS Council of Ministers and ECOWAS Authority of Heads of State and Government.

ANNEX 1: Indicative lists of project categories to be considered include but not limited to:

<b>Energy Project Type</b>	<b>Nexus Link</b>
<i>Renewable Energy for Productive Use (RE4PU)</i>	Powers irrigation, agri-processing, and water pumping
<i>Solar PV Systems</i>	Water pumping, drip irrigation, solar drying, cold storage
<i>Wind Energy Projects</i>	Water pumping/treatment, hybrid irrigation systems
<i>Bioenergy / Waste-to-Energy</i>	Energy from agri/food waste, fertilizer from digestate
<i>Small/Micro Hydropower</i>	Supports irrigation schemes, drinking water, fish farming
<i>Solar/Wind-Powered Desalination</i>	Clean water for crops, livestock, and human use in arid zones
<i>Integrated Energy Access (Mini-Grids, SHS)</i>	Power for household water systems, small agri-processing units
<i>Bioenergy Solutions (Biomass/Biogas, Waste-to-Energy)</i>	Converts agricultural or food waste into energy while returning nutrients to soil through compost or biochar. Supports circular food-energy-water flows.
<i>Rural Electrification (Mini-grids, SHS) including productive use</i>	Electrification improves food value chains (storage, milling, irrigation) and water access (pumping, purification).
<b>Energy Efficiency Projects and Nexus Integration</b>	
<i>Infrastructure Upgrades (Loss reduction, metering)</i>	Improved grid efficiency can enhance reliability for agri-water services (e.g., irrigation pumps, water treatment).
<i>E-Mobility Transition (cross-cutting)</i>	E-transport networks powered by renewable energy can integrate food delivery logistics and access to clean cooking fuels.
<i>Grid Modernization</i>	Storage and smart grid systems support variable renewable power for irrigation, processing, and water supply reliability.
<i>Clean Cooking Access</i>	Improved cookstoves reduce wood fuel pressure, supporting watershed and agricultural productivity while enhancing health.
<b>Cross-Cutting Projects with Direct Nexus Orientation</b>	
<i>Capacity Development</i>	Builds local technical and institutional capacity to plan, finance, and operate WEF Nexus projects.
<i>Innovation Ecosystem</i>	Labs and hubs foster locally adapted Nexus solutions combining water, energy, and food systems.

## ANNEX 2: INDICATIVE PROJECT SHEET

This is not exhaustive and will be review and improved:

### 1. General Project Information

- a. Project Name: \_\_\_\_\_
- b. Location: \_\_\_\_\_ (Country/Region/Utility Coverage Area)
- c. Start Date: \_\_\_\_\_
- d. Duration: \_\_\_\_\_ years
- e. EE Focus Area(s): (Check all applicable)
- f. E-Mobility: # of charging stations planned \_\_\_\_\_
- g. ESCOs (Energy Service Companies): ☐ Performance contracting ☐ Shared savings
- h. Manufacturing/Industrial EE: ☐ Process optimization ☐ Waste heat recovery
- i. Building Retrofits: ☐ Public buildings ☐ Residential ☐ Commercial
- j. Grid Optimization: ☐ Smart meters ☐ Demand management ☐ Smart grids
- k. Digitalization: ☐ Pre-paid meters ☐ Billing systems ☐ SCADA ☐ Asset mapping
- l. Policy/Workforce Development: ☐ Gender inclusion ☐ Staff retention ☐ Training
- m. Other: \_\_\_\_\_

### 2. Technical Description

Key Technologies/Measures: (Select relevant)

- a. E-Mobility: Charger types (AC/DC), power capacity, grid integration plan
- b. Digitalization:
- c. Smart metering rollout (# of meters: \_\_\_\_\_)
- d. GIS-based asset mapping
- e. Automated billing/distribution systems
- f. Remote monitoring (e.g., transformer sensors, GSM alerts)

Grid Optimization:

- a. Load forecasting tools

- b. RE integration strategies (e.g., solar/wind dispatchability)
- c. Peak shaving/demand response
- d. Industrial EE: \_\_\_\_\_ (e.g., high-efficiency motors, VSDs)
- e. Expected Energy Savings: \_\_\_\_\_ (kWh/year or % reduction)
- f. Baseline Data: \_\_\_\_\_ (Current energy use/inefficiencies)

### 3. Financial Aspects

- a. Total Budget: \_\_\_\_\_
- b. Funding Sources:
- c. Utility funds ☐ Government grants ☐ Private investors ☐ International donors
- d. ESCO financing ☐ Carbon credits ☐ Other: \_\_\_\_\_
- e. Revenue Model:
- f. Tariff adjustments ☐ Energy savings sharing ☐ Service fees
- g. Cost-Benefit Analysis: Payback period \_\_\_\_\_ / IRR \_\_\_\_\_

### 4. Environmental & Social Impact

- CO2 Reduction: \_\_\_\_\_ tons/year
- Social Benefits:
- Job creation (#: \_\_\_\_\_)
- Gender inclusion policies (% female workforce target: \_\_\_\_\_)
- Improved energy access (# of beneficiaries: \_\_\_\_\_)
- Risks: ☐ Data privacy ☐ Grid instability ☐ Workforce resistance

### 5. Implementation Plan

- Short-Term (0–2 yrs): Pilot projects, policy drafting, stakeholder consultations
- Medium-Term (2–5 yrs): Full deployment, workforce training, RE integration
- Long-Term (5–10 yrs): System scaling, AI-driven optimization

### 6. Policy & Regulatory Alignment

- Supported Policies:
- National EE targets ☐ Smart grid roadmaps ☐ E-mobility incentives

- Barriers: ☐ Lack of standards ☐ Financing gaps ☐ Bureaucracy

## 7. Monitoring & Evaluation

- KPIs:
  - Energy savings \_\_\_\_\_
  - of digital meters installed \_\_\_\_\_
  - Charging stations operational \_\_\_\_\_
- Tools: ☐ SCADA ☐ GIS ☐ Smart meter analytics
- Notes:
  - Adapt fields (\_\_\_\_\_) to project specifics.
  - Use checkboxes (☐) for rapid assessment.
  - E-mobility: Include grid upgrade requirements for chargers.
  - Digitalization: Stress cybersecurity measures for IT systems.
  - Need adjustments for a specific audience (e.g., utilities, policymakers)? Let me know!

## CURRICULUM VITAE (CV) MODEL

### ANNEX 3: CV Template

1. Surname:
2. First names:
3. Date of birth:
4. Nationality:
5. Marital status:
6. Diplomas:

Institution (Date: start – end)	Diploma(s) obtained

7. **Language skills:** Indicate your knowledge on a scale of 1 to 5 (1 – excellent; 5 – rudimentary)

Language	Read	Speak	Writing
French			
English			

8. **Affiliation with a professional organization:**

9. **Other skills:**

10. **Current situation:**

11. **Years of seniority with the employer:**

12. **Main qualifications:**

■

13. **Specific experience in the region:**

Country	Start date – End date	Country	Start date – End date

**14. Professional experience:**

Start date End date	Place	Company and reference person (name & contact)	Position	Description

**15. Other relevant information:**

- Publications: