



**TERMS OF REFERENCE
FOR THE
DEVELOPMENT OF ECOWAS STANDARDS AND LABELING FOR BIOMASS
COOKSTOVES**

May 2020

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1. Background

The ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) seeks to contribute to the sustainable economic, social and environmental development of West Africa by improving access to modern, reliable and affordable energy services, increasing energy security and reducing energy related GHG emissions and climate change impacts of the energy system. The specific objective of ECREEE is to create an enabling environment for renewable energy and energy efficiency markets by supporting activities directed at removing existing barriers.

In line with its objectives to promote energy access through the use of renewable energy and energy efficiency technologies, ECREEE established a regional clean cooking energy initiative called the West Africa Clean Cooking Alliance (WACCA) with the mandate to accelerate access to clean cooking energy services in the region.

- In the ECOWAS region, around 80% of the population still uses traditional biomass for cooking and heating, often in unsustainable manner on inefficient stoves such as the 3-stone fire.
- Globally, energy poverty known as the lack of access to modern and sustainable energy services is responsible for more than 4 million deaths per year from indoor-air pollution (IAP), according to the WHO (2012). The majority of these premature deaths occur in developing countries such as the member states of ECOWAS.

WACCA believes that efficient, affordable and clean cooking energy solutions can significantly improve the lives of those who have no access to such opportunities and are forced to use expensive and dangerous alternatives to satisfy their cooking needs. Though improved cookstoves (ICS) and alternative and modern cooking fuels exist, market uptake for these products remains very low especially in rural and peri-urban areas due a multitude of supply-chain barriers. Some of these barriers are the lack of good quality stoves and the dissemination of low-quality stoves, which does nothing but increase consumers' lack of trust towards the technologies. Due to the prevalence of poor quality cooking energy products, market penetration for clean cooking products has been slow amidst efforts by well-intended stakeholders such as WACCA, and others.

In a recent informal survey of clean cooking entrepreneurs conducted by WACCA during a capacity-building workshop, it was evident that most stoves producers in attendance did not have a clear idea about the thermal and energy efficiency of their stoves. Moreover, most of them were not aware whether or not there were testing labs in their respective countries. For instance, the number one ICS in the region is the Kenya Ceramic Jikko (KCJ) marketed under diverse local names. However, these stoves are not standardized across the ECOWAS region. Therefore, the market is flooded with the same stoves with various quality and performance standards. Moreover, there is a general lack of awareness and visibility around importance of testing and standards. To remedy this situation, WACCA is looking to develop regional standards and Labeling for cookstoves.

These standards and Labeling aim to:

- Enable manufacturers to offer higher quality products to convince financial institutions of the merits of their business.
- Enable manufacturers to improve the quality of their products.
- Enable governments to control the quality of improved biomass stoves in the ECOWAS market.

- Guiding consumers towards the use of improved quality stoves

2. Objective(s) of the Assignment

The Overall objective of this study is to develop regional standards and Labeling for cookstoves for the ECOWAS Region.

The specific objectives are:

- Make a stocktaking based on the existing documents available on clean cooking stoves in the ECOWAS Region.
- Development of quality standards and labelling for cookstoves for the ECOWAS Region
- Identify clean cooking quality testing facilities and how these testing centres in each country can be used.
- Propose a strategy for the implementation of a quality assurance scheme of regional and national level.

3. Scope of Work

3.1 General scope of the assignment

The scope of the work is divided into the following work packages.

- **Work package 1:** Development of the baseline report
- **Work package 2:** Development of Standards and Labeling for cookstoves or the ECOWAS Region;
- **Work package 3:** Appraisal of Testing Facilities for cookstoves and fuels
- **Work package 4:** Organization of the regional validation workshop of baseline report, draft standards;
- **Work package 5:** Harmonization process of standards.

3.2 Detailed Scope of the Assignment

3.2.1 Baseline Report

- Review institutional and regulatory frameworks for clean cooking sector in ECOWAS countries
- Document various standards and labels that exist in ECOWAS member states and internationally
- Determine the status of clean cooking standards and labelling in ECOWAS member states.
- Make an inventory of the technologies and type of clean cookstoves used mostly in ECOWAS Region.
- Make or update an inventory of national stakeholders and institutions involved in the clean cooking sector, location and contact, priorities, (ECREEE data base);
- Update the database of resources built by ECREEE in 2016 (testing centers, standards committee, experts) in various member states

- Analyze a current situation of clean cooking sector in the ECOWAS region and identify strength, weaknesses, successes and challenges in implementing regional standards and Labeling.

3.2.2 Development of standards and Labeling for biomass cookstoves

Under the direct supervision of the ECREEE, the consultant will take responsibility for implementing the following activities:

- develop a draft regional quality standard and Labeling for cookstoves
- describe in detail the relevance of the action, including the problems and their interrelation at all levels;
- develop the full description of the action and its effectiveness
- Suggest and describe in details the methodology of development and reasons for the choice of the methodology proposed;
- Give technical details of the regional standards and Labeling. The Standards that will be limited to institutional and domestic cookstoves using biomass. The standards will describe among others:
 - the requirements of technical specifications of Key Components of a generalized cookstove (Construction requirements)
 - performance requirements
 - Marking
 - Packaging
 - Tests requirements (Test for thermal efficiency/ fuel use, fuel preparation, test for emissions, particulates, safety, protocols, equipment, and methodology for measurements, calculation, etc.)
- Considering the already existing adopted ECOWAS EE label and the benchmark of national cookstoves labels existing in the ECOWAS region
 - design a draft label for biomass cookstoves on which the following information appears, among others:
 - Name and official colors of the Country
 - number of stars or other indication indicating the Average Tier Rating of the stove
 - stove efficiency;
 - fuel type
 - brand
 - size
 - Emissions
- Support ECREEE in the organization of the workshop for validation and harmonization of standards and participate in the workshop;
- Give technical details or participate in the meetings of the specific ECOSHAM Committee at the request of ECREEE.

3.2.3 Appraisal of Testing Facilities for Cookstoves and fuels

- Identify and evaluate the existing testing facilities in the various countries;
- Identify laboratories in each ECOWAS country which can be accredited as national testing laboratories;
- Conduct a pre-feasibility study (needs assessment, economic and financial analysis, cost effectiveness, accreditation, sustainability and procedures) for the creation of Testing Facilities in each country.
- Analyze the success factors and propose a strategy for the implementation of the quality assurance scheme at regional and national level

3.2.4 Regional validation workshop

The regional workshop aims to inform stakeholders in West African Member States about the current study and to validate the developed documents. The firm will:

- Support ECREEE in the organization of the workshop for validation, prepare and present the following documents:
 - Baseline report,
 - Draft regional Standards and label
- Integrate all workshop comments and input in the above documents
- Write the regional workshop report.

3.2.5 Harmonization process of standards

- During the standards harmonization process, the presence of the firm is required for the 1st meeting of the harmonization Committee of the Standards and Labeling for cookstoves.
- In addition, if necessary, the consultant is required to provide all the necessary technical information to answer questions from the technical harmonization committee or participate in the meetings of the ECOSHAM specialized committee at the request of ECREEE.

4. Profile and duties of Key Experts

The Consulting firm shall offer experts with the profiles outlined in the table below.

Key Experts	Qualifications
<p>Key Expert 1: (Team Leader): Technical and Management skills.</p> <p>The key expert 1 will be:</p> <ul style="list-style-type: none"> • Responsible for the overall management of the consultancy experts, • Development of Baseline 	<ul style="list-style-type: none"> • At least a Master degree in energy engineering, energy economics, or any relevant similar areas; • At least 10 years of professional experience in the development of standards and labeling in energy sector or any relevant similar area • At least 5 years of experience in the elaboration of standards and Labeling for cookstoves • At least 5 years of experience in Africa region, of which 2 years in ECOWAS region

<p>report,</p> <ul style="list-style-type: none"> • Development of Standards and Labeling for cookstoves • Etc. 	<ul style="list-style-type: none"> • At least 10 years of management/leadership experience as project team leader or manager in a company • Excellent working knowledge of English and French.
<p>Key Expert 2: The key expert 2 will be:</p> <ul style="list-style-type: none"> • Specialist for the Testing Facilities for cookstoves and fuels, • Support the development of baseline report, • Etc. 	<ul style="list-style-type: none"> • A Master’s degree in Engineering, Energy or related field; • At least 10 years of professional experience in the appraisal testing facilities in energy sector or any relevant similar area • At least 5 years of good experience in the appraisal testing facilities for cookstoves and fuels; • At least 3 years of experience working in Africa region, preferably in ECOWAS region • Excellent working knowledge of English and French.

5. Public relations and events

The following events listed below will require the presence of at least one of the key experts:

- Kick off meeting with ECREEE: by Skype or WhatsApp, etc
- Validation workshop for: Presentation of baseline report, draft standards and Labeling for cookstoves and appraisal testing facilities report;
- Two meetings of chemical committee for harmonization of new standards (if necessary).

Scheduling of events will be done by the ECREEE team in cooperation with the consultancy firm. Local costs for organizing and implementing these events will be covered by ECREEE and are not part of this contract.

6. Reports

6.1 Reporting requirements

In addition to the deliverables mentioned in section 4, (Scope of the work), there must be a final report, a final invoice and the total expenses report at the end of the period of execution as per ECREEE requirements. The draft version of the deliverables must be submitted to the ECREEE, for comments. Thereafter, the firm will incorporate these comments in a final version which will be submitted to the ECREEE, ten days after the draft version submission. The draft of the final report must be submitted at least one month before the end of completion of the contract.

6.2 Submission & approval of progress reports

A two to three-page monthly progress report highlighting achievements as well as issues of implementation shall be submitted.

6.3 Work and Reporting language

The consultancy firm must have the capacity to work in English, French and Portuguese. Therefore all the final reports should be submitted in all the 3 languages

7. Monitoring and evaluation

7.1 Deficiency of services of parties

In order to assess progress, identify difficulties and rapidly take appropriate measures to overcome them, the Consultant has to inform the ECREEE Project Management immediately in writing by email of **any** difficulties in providing the contracted services.

7.2 Timeframe and Deliverables

The firm will be required to deliver the following assignment outputs in accordance with the tentative time schedule. The deliverables of all reports shall be in electronic and editable formats.

The deadlines and main components of deliverables are summarized in the table below.

	Deliverables	Deadlines	Place	Person responsible
0	<p>Kick off Meeting with consultants (inception meeting by Skype, WhatsApp, or other)</p> <p>Inception Report</p>	2 nd week of July 2020	Skype call	<ul style="list-style-type: none"> • ECREEE- • Key Expert1 (Team Lead)
1	<p>Work package 1: Baseline report:</p> <ul style="list-style-type: none"> • Data collection • 1st interim report (English or French) • 2nd interim report (English and French, accompanied by detailed summaries in English, French, Portuguese) • Final report (English, French & Portuguese) 	July to September 2020	Home base	<ul style="list-style-type: none"> • Key Expert1 • Key Expert 2 • ECREEE-
2	<p>Work package 2: Development of Standard and Labeling for cookstoves for the ECOWAS Region:</p> <ul style="list-style-type: none"> • First draft standards (English or French) • 2nd interim draft (English, French, Portuguese) • Final draft standards (French, English, Portuguese) 	July to October 2020	Home base	<ul style="list-style-type: none"> • Key Expert 1 • ECREEE

3	Work package 3: Appraisal of Testing Facilities for cookstoves and fuels: <ul style="list-style-type: none"> • First draft standards (English or French) • 2nd interim draft (English, French, Portuguese) • Final draft standards (French, English, Portuguese) 	July to October 2020	Home base	<ul style="list-style-type: none"> • Key Expert 2 • ECREEE
4	Work package 4: Regional validation workshop of: <ul style="list-style-type: none"> • Baseline report, • Draft Standards and labelling for cookstoves • Appraisal testing facilities report 	November 2020	Country assignment	<ul style="list-style-type: none"> • ECREEE • Key Expert 1 • Key Expert 2
5	Work package 5: Harmonization process of standards: <ul style="list-style-type: none"> • 1st meeting of the harmonization Committee of the draft standards and Labeling for cookstoves 	November to December 2020	Country assignment	<ul style="list-style-type: none"> • THC work meetings (2) • Key Expert 1 (Team leader)

Period of assignment: From **July 2020** until **December 2020**.

8. Payment Schedule

- 15% upon receipt and approval of inception report
- 20% upon receipt and approval of 2nd interim draft of baseline report (English and French, accompanied by detailed summaries in English, French, Portuguese)
- 50% upon receipt and approval of 2nd interim draft of Standards and labelling (English, French, Portuguese) & 2nd interim draft of Appraisal of Testing Facilities report ((English, French, Portuguese)
- 15% upon receipt of a final documents (baseline report, Standards and labelling, Appraisal of Testing Facilities report and regional workshop report)

9. Estimated level of input

The estimated level of work is about 40 expert days divided between the key expert 1, the key Expert 2 and the eventual backstopping staff.

10. Form of proposals

Technical Part:

- Description of the expert or expert team
- Detailed CV (annexes)

- List of references of assignments with similar scope and focus (annexes)
- Description of approach, methodology, process management and reporting
- Implementation plan including expert diagram indicating the working days of the offered experts

Financial Part:

- Personnel Costs: budget table according to the expert diagram (showing the individual daily fees of the experts in USD)
- Other costs (travel cost to Member States)

11. Evaluation of proposals

The best offer will be determined as following:

1.) 70% Quality of technical part

- Professional experience and profile of consultant/team (see below)
- Quality of technical document (approach, methodology, suggested process and reporting framework)

2.) 30% financial part

Including personnel and other costs

12. Information

Interested candidates should submit proposals as detailed in item 10 in English or French language and electronically to ECREEE using the following email address **ONLY:** tender@ecreee.org no later than (See Procurement notice)-.

For any clarification or information, please contact, please contact bioenergy@ecreee.org

13. Background documents

- Standards & Labels Baseline Assessment-ECREEE 2016
- Study on institutional framework for standards for bioenergy in the ECOWAS region;
- WACCA Action Plan, link:
- ECOWAS Bioenergy Policy, link:
http://www.ecreee.org/sites/default/files/ecowas_bioenergy_policy.pdf
- ECOWAS renewable energy policy; link :
http://www.ecreee.org/sites/default/files/documents/ecowas_renewable_energy_policy.pdf
- ECOWAS Energy Efficiency Policy, link :
http://www.ecreee.org/sites/default/files/documents/ecowas_energy_efficiency_policy.pdf

Note: ECREEE will help the consultants to collect the documents listed above, as well as relevant and any available documents that could be useful for this study.