



Terms of Reference

22 May 2024

Statement of work: Adoption and Harmonization of Minimum Energy Performance Standards (MEPS) and a Compliance Strategy Framework for Lighting, Refrigeration, and Air Conditioning in the Economic Community of Central African States (ECCAS)

Name of the project: First operational phase of the Centre for Renewable Energy and Energy Efficiency for Central Africa

Project ID No.: 200138; Grant No.: 2000005190

Country: The member countries of the Economic Community of Central African States (ECCAS)¹

This assignment is financially supported by the European Union (EU)²



¹ They are represented (in alphabetical order) by: Angola, Burundi, Cameroon, Central African Republic (CAR), Chad, Democratic Republic of the Congo (DRC), Equatorial Guinea, Gabon, Republic of the Congo (RoC), Rwanda and São Tomé and Príncipe (STP).

² The EU is financing this work under the Action Plan (entitled in French): « *Programme d'appui aux organisations spécialisées de la CEEAC pour l'opérationnalisation du marché régional et le développement des énergies renouvelables* ».



1. Introduction

Under the Global Network of Regional Sustainable Energy Centres ([GN-SEC](#)) program, UNIDO supports the Economic Community of Central African States (ECCAS) in the establishment of the Centre for Renewable Energy and Energy Efficiency for Central Africa ([CEREEAC](#)), which aims to accelerate the energy and climate transition by providing support “from the region for the region”. The geographic scope of the centre includes Angola, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of Congo (DRC), Equatorial Guinea, Gabon, Republic of the Congo, Rwanda, São Tomé and Príncipe.

The technical and institutional design of the CEREEAC (hereinafter referred to as the “centre”) is the result of a comprehensive consultative preparatory process, which was undertaken by UNIDO and ECCAS between 2020 and 2021. The centre was adopted by the Energy Ministers on 8 June 2021 and formally established by Decision No. 04/CEEAC/CCEG/XIX/21 of the 19th Conference of Heads of State and Government held on 30 July 2021 in Brazzaville. Following a competitive selection process, Luanda, Angola was designated as the host location of the CEREEAC Secretariat.

The centre received full legal identity with all rights and privileges upon the signature of the host country agreement between ECCAS and the Government of Angola on 3 November 2021. The centre was officially inaugurated on 10 March 2023 during a high-level ceremony, co-organised by the Government of Angola, ECCAS and UNIDO. The Start-Up Unit of CEREEAC has officially been established at the centre’s premises on 16 June 2023. The Start-Up Unit and the CEREEAC Secretariat will streamline their operations through a network of National Focal Institutions (NFIs) and Thematic Hubs (THs) among all ECCAS countries. The CEREEAC management operates under the guidance and oversight of a Ministerial Steering Committee and an Executive Board.

The CEREEAC aims to address demand and supply-side barriers for integrated and inclusive ECCAS sustainable energy product and service markets by promoting economies of scale, equal progress, joint learning and spillover effects between countries. Through cross-border approaches and methodologies, the centres will complement and accelerate national efforts in the areas of policy, regulation, quality infrastructure, qualification, knowledge and facilitation of investment and entrepreneurship. It will serve as a central hub for knowledge, and counselling, as well as international and local partnerships.

The creation of the CEREEAC is an important contribution to the envisaged structural transformation in Central Africa. Global emergencies, such as climate change, the COVID-19 health and economic crisis and frequent oil price fluctuations are demonstrating the vulnerability of Central African countries, which are highly dependent on the export of raw materials, including oil and gas. The shift towards renewable energy and resource efficiency, as well as circular economy practices, is an important prerequisite for the success of economic diversification, industrialisation, and climate actions. The expansion of higher-added-value manufacturing and servicing in Central Africa requires rapid investments in climate-resilient low-carbon energy infrastructure.

With the creation of the CEREEAC, the GN-SEC will cover the entire African continent. It will become an important triangular capacity hub to accelerate the implementation of the industrialisation, energy and climate goals in the African Union Agenda 2063 “The Africa We want”. It contributes to the AU efforts to establish a harmonised continental electricity market and free trade area, as well as the implementation of the Third Industrial Development Decade for Africa (2016–2025). UNIDO will facilitate south-south and triangular cooperation between CEREEAC and the other African centres, including RCREEE (Egypt), ECREEE (Cape Verde), SACREEE (Namibia) and EACREEE (Uganda) on common energy issues and solutions.



From the very beginning, CEREEAC will operate according to local rules and within ECCAS ownership and decision-making processes. UNIDO provides mentoring and technical services related to institution-building, technical program development, partnership building and fund mobilisation throughout the first operational phase of the centre. It is envisaged that the centre will reach full independence and financial and technical sustainability by the end of the project period. Currently, the centre is building up its technical and administrative staff capacities. The centre has started with a small, gender-balanced, multicultural Start-Up Unit comprising technical and administrative experts. The Unit is expected to expand, depending on its performance and raised programmatic funding.

With over 77% of the 745 million global population that lack access to electricity living in Sub-Saharan Africa (SSA), the average regional electrification rate is as low as ~35%, while the national ones range from 15% to 85%. Therefore, increasing universal access to affordable, reliable and modern energy services by 2030 is key to achieving the agenda of the UN Sustainable Development Goal (SDG) 7.

Furthermore, the electricity demand is expected to grow massively on the African continent in the coming decades. This demand will also increase the emission intensity of the continent's electrification pathway, with certain implications for low-carbon development and eventually climate change action. Lighting and cooling sectors, including refrigeration and air conditioning, account for over 15% and 20% of global power consumption contributing over 5% and 7% of global greenhouse gas (GHG) emissions respectively. Moreover, with factors like high rates of urbanisation, extreme surges in temperatures and economic growth, the demand for cooling services in Africa are also growing for the key sectors such as residential and commercial buildings, healthcare, manufacturing, and agricultural value chains. Therefore, there is an urgent need to improve energy efficiency, while delivering access to affordable and sustainable energy services for these important sectors.

In Central Africa, similar to many other parts of SSA, energy-efficient lighting and appliances have not effectively attracted the attention of policymakers, utilities, and end-users. It is therefore imperative to establish a policy framework in the region with the new policy and regulatory measures to support a successful transition to quality light-emitting diode (LED) lighting, energy-efficient refrigeration and air conditioning across the Central African region to leverage the associated benefits.

With support from the "First operational phase of the CEREEAC" project, Central Africa will adopt a compliance framework for lighting, refrigeration, and air conditioning as a key outcome of having Regional Renewable Energy and Energy Efficiency policies, regulations, and standards. This work will be financially supported by the European Union (EU) under the action titled "*Support Programme for ECCAS specialized organizations for the operationalization of the regional market and development of renewable energies*". Under this action, the EU supports the development of a regional electricity market in Central Africa and the uptake of renewable energies in the energy mix, in order to contribute to a reduction in greenhouse gas emissions.

Furthermore, this initiative is in alignment with the regional White Paper on universal access to modern energy services for economic and social development by 2030. The implementation process is being driven by regional energy initiatives, which aim to meet the needs of the population. This will commence with an assessment of the existing landscape of the emerging energy-efficiency lighting, refrigeration, and air conditioning market, with a focus on the state of lighting products, refrigerators, and air conditioners, regulatory and policy tools, and the capacity of national institutions such as standards bodies. This will be followed by the facilitation of the adoption, implementation, and compliance to the standards across the region.

The proposed Minimum Energy Performance Standards (MEPS) and compliance strategy framework for the aforementioned devices builds upon the initiatives that have previously been implemented by the



Energy Efficient Lighting and Appliances (EELA) project.³ Funded by the Government of Sweden, UNIDO implemented this program in collaboration with SACREEE and EACREEE, covering all the member states of both the Southern African Development Community (SADC) and the East African Community (EAC). The project objectives were to improve energy efficiency for an array of appliances and subsequently allow the region to take advantage of its associated benefits, including industrial development and reducing poverty. By transferring and building upon this framework, the Central African region will similarly aim to reap the benefits of this work, and harmonise the MEPS across these regions.

When preparing standards and compliance frameworks, the EELA project collaborated with, and benefitted from the technical expertise of the United Nations Environment Programme's (UNEP) United for Efficiency (U4E) program (<https://united4efficiency.org/country-regional-activities/eac-sadc/>). The contributions from U4E are instrumental to the continued success of the EELA project and by extension, these benefits will pass through to the development of MEPS and compliance programs in Central Africa.

2. Objectives and deliverables of the assignment

UNIDO is seeking for consulting services to carry out a comprehensive regional baseline needs assessment and adoption of MEPS for lighting products, refrigerators, and air conditioners. This initiative aims to create an enabling environment that promotes a transformative shift towards the widespread adoption and use of energy-efficient lighting, refrigeration, and air conditioning solutions in all sectors within the ECCAS region. Additionally, this initiative will support a comprehensive regional adoption strategy for the MEPS to provide policy and regulatory guidance to facilitate the implementation at the national level. These efforts align closely with the outcomes of the EELA project and the U4E initiative in other regions of the African Union. Notably, Rwanda and Burundi already have nationally implemented MEPS, as a result of their membership to the EAC and similarly Angola and the DRC as part of SADC. Furthermore, Sao Tome and Principe has also independently developed and implemented MEPS on a national level. By transferring and adapting the MEPS to the remaining Central African states, this work will enable the integration and harmonisation of standards across the ECCAS region, while fostering a coordinated approach to energy efficiency promotion.

Another important milestone of this assignment will be the organization of a regional training and validation workshop to consolidate the MEPS implementation and compliance framework for lighting, refrigeration, and air conditioning the ECCAS region. This is a crucial stage for ensuring the robustness of the strategy and its alignment with regional dynamics and needs.

Lastly, the strategy will also entail awareness raising mechanisms aimed at engaging and educating key market players and policymakers about the benefits and significance of energy-efficient lighting, refrigeration, and air conditioning.

The assignment will be delivered through the following specific objectives:

- a) [Based on the already produced regional MEPS for the EAC and the SADC regions](#), conduct a regional baseline assessment to evaluate market conditions, with a specific focus on the adoption of MEPS for lighting, refrigeration, and air conditioning appliances.
- b) Prepare the ECCAS MEPS for lighting, refrigeration, and air conditioning and a comprehensive regional adoption strategy. The objective is to promote the adoption of energy-

³ More information on the EELA project is available on the EELA website, www.eela-project.org, as well as UNIDO web-site, <https://open.unido.org/projects/M2/projects/190108>



efficient lighting, refrigeration, and air conditioning products, along with appropriate incentive schemes to encourage their uptake.

- c) Design an awareness program for key market stakeholders to foster a supportive ecosystem for the adoption of MEPS in the region especially at national levels.
- d) Organise and facilitate a regional training and validation workshop to endorse the MEPS as well as the implementation and compliance framework for the ECCAS.⁴ This workshop will ensure that the compliance strategy is relevant and effective in promoting the adoption of MEPS in lighting products and appliances for refrigeration and air conditioning.

The contracted consultants are expected to provide the following deliverables (in French and English):

Deliverable 1:

- Inception report (incl. list of documents to be reviewed, interviews and meetings to be held), to be reviewed by UNIDO and CEREEAC.

Deliverable 2:

- ECCAS baseline needs assessment report for the adoption of regional MEPS, and a draft compliance strategy framework for lighting, refrigeration and air conditioning products, to be reviewed by UNIDO and CEREEAC.

Deliverable 3:

- Draft of the regional MEPS and compliance strategy framework for lighting refrigerators, and air conditioners in the ECCAS region, to be reviewed by UNIDO and the CEREEAC.

Deliverable 4:

- A regional training and validation workshop aimed at endorsing and validating the regional MEPS and compliance framework for lighting products, refrigerators and air conditioners in the ECCAS region.
- A detailed regional awareness strategy and capacity-building activities, tailored to key market influencers and policymakers.
- A final report that covers the outcomes of the regional training and validation workshop.

3. Scope of work

PROPOSED DEVELOPMENT STAGES AND TASKS	DELIVERABLES	Indicative Timeline & Expected Working Days	Tentative Payment Schedule
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⁴ The regional compliance framework for energy efficient lighting and appliances has already been developed for the SADC and EAC regions. UNIDO will provide this document as and Appendix to this ToR.



<p>Stage 1: Conceptualisation of the assignment.</p> <ul style="list-style-type: none"> a) Review of existing literature on MEPS for lighting, air conditioning and refrigeration in other regions. b) Discussion and finalization of the inception report in consultation with UNIDO and CEREEAC. c) Compile a list of key stakeholders to be contacted during the assignment; the list requires approval by UNIDO and CEREEAC. 	<ul style="list-style-type: none"> - An inception report in French and English that outlines the methodology and work plan for fulfilling the project's Terms of Reference. - This report should include a comprehensive list of key documents to be reviewed, a stakeholder map for the assignment, interviews and meetings to be held, and a clear engagement strategy for consultation during the assignment. 	<p>Within three weeks from the contract signature</p> <p>– (Estimated 10 working days within the three weeks period)</p>	<p>10%</p>
<p>Stage 2: ECCAS baseline needs assessment report for the adoption of regional MEPS, and a draft compliance strategy framework for lighting, refrigeration and air conditioning products</p> <ul style="list-style-type: none"> a) Conduct a thorough review of existing literature, (including work done by the EELA project and UNEP U4E in the SADC and EAC regions), academic papers, industry reports, and policy documents related to MEPS for the specified products and appliances. b) Evaluate the current market size and segmentation for lighting products and appliances for refrigeration and air conditioning in the region. c) Analyze current policies and regulations within the region that impact the adoption of the regional MEPS, identifying gaps and opportunities for enhancement. d) Assess consumer behaviour, preferences, and willingness to pay for energy-efficient appliances. e) Identify key market players (manufacturers, distributors, retailers) and their roles in promoting or hindering the adoption of the regional MEPS. 	<ul style="list-style-type: none"> - A detailed baseline assessment report (in French and English) that covers the current market conditions and key stakeholders, including a thorough analysis of consumer behaviour, the general policy and regulatory frameworks of any existing MEPS in the region for the various products and appliances, and suitable recommendations for adoption. - A draft regional MEPS implementation and compliance strategy framework⁵ in French and English, including the strategic vision, objectives, policy and regulatory recommendations, fiscal support mechanisms, capacity-building plans, accreditation and testing, as well as the monitoring and evaluation framework. 	<p>Within three months from the contract signature</p> <p>– (Estimated 40 working days within the three months period)</p>	<p>25%</p>

⁵ This will make reference, among others, to the already developed document for the EAC and SADC regions.



<p>f) Conduct stakeholder consultations through interviews, surveys, and focus group discussions with stakeholders to gather insights on their perspectives, challenges, and recommendations regarding MEPS.</p> <p>g) Analyze the economic impact of adopting MEPS, including cost-benefit analysis for consumers, manufacturers, and the overall economy.</p> <p>h) Estimate the potential energy savings and reduction in greenhouse gas emissions that could result from the widespread adoption of MEPS.</p> <p>i) Assess any other environmental benefits or impacts associated with implementing MEPS in the region.</p> <p>j) Review and recommend the technical specifications and performance standards of current lighting products and appliances for refrigeration, and air conditioning available in the market.</p> <p>Identify gaps in knowledge, awareness, and technical capacity among stakeholders regarding MEPS and energy-efficient appliances.</p> <p>k) Assess the national standard bodies and advise on the composition of a regional technical committee (TC), which could constitute the genesis of a future ECCAS Standards Committee.</p> <p>l) Draft an ECCAS compliance strategy framework, (based on the already developed document for the EAC and SADC regions, which will be provide by UNIDO). Design mechanisms for monitoring the implementation of the MEPS including key performance indicators (KPIs) for tracking progress. Provide recommendations on best practices related to labelling schemes for lighting and appliances.</p>			
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<p>Stage 3: Draft of the regional MEPS and compliance strategy framework for lighting refrigerators, and air conditioners in the ECCAS region</p> <p>a) Draft the regional MEPS, aligned with international standards and local requirements. The service provider may need to refer to the existing MEPS documents from the EELA project, as appropriate. This includes, but is not limited to, the MEPS relating to lighting products, air conditioning and refrigeration used in the SADC and EAC regions.</p> <p>b) Incorporate comments provided by the project team and the TC members.</p> <p>c) Complete draft of the ECCAS compliance strategy framework document, ready for adoption. Based on the findings from the baseline assessment report and the drafted MEPS, the contract should provide comprehensive recommendations for policymakers, industry stakeholders, and other relevant parties at the national levels to facilitate the adoption of the regional MEPS and the compliance strategy framework.</p>	<ul style="list-style-type: none"> - A draft report of the regional MEPS documents, ready for adoption (in both French and English). The report should address all comments provided by the project coordination teams and the TC members. - An ECCAS compliance strategy framework document, ready for adoption (in both French and English). 	<p>Within seven months from the contract signature – (Estimated 75 working days within the seven months period)</p>	<p>40%</p>
<p>Stage 4: Organization of a regional training and validation workshop for the adoption of MEPS and a compliance strategy framework in the ECCAS region, including a regional awareness strategy</p> <p>a) Support the organization of a regional stakeholders training and validation workshop. This will focus on validating both the regional MEPS, as well as the ECCAS implementation and compliance strategy. Additionally, the workshop will also be used as a training platform for the key stakeholders in the region to learn how to replicate the new MEPS at a national level.</p> <p>b) Propose a clear strategy for capacity building and awareness raising campaigns to support the adoption of the region MEPS. This could include, but not limited to,</p>	<ul style="list-style-type: none"> - Draft training agenda covering all topics, activities, and time slots. Training materials, PowerPoint presentations and visual aids for each session. Handouts and reference materials for attendees. Forms to gather participant feedback on the workshop's content and organization. Training draft report, including summary of discussions, validation results, and key decisions. - A detailed regional awareness and capacity-building strategy. 	<p>Within 12 months from the contract signature – (Estimated 35 working days within the 12 months period)</p>	<p>25%</p>



<p>technical trainings for manufacturers on producing compliant products, awareness campaigns for consumers, and trainings for government officials on enforcing the standards.</p> <p>c) Provide support to the organisation of two webinars including presentations, development of agenda, identification of speakers, and meeting report.</p>	<p>Webinars agenda and presentations.</p> <p>- A final report incorporating the outcomes and recommendations of the regional training and validation workshop.</p>		
Total		160 Working Days (spanning over twelve months)	

4. Time Schedule

The activities under this contract should be completed within 12 months of the effectiveness of the contract. A total amount of 160 working days within this period is foreseen, which includes home-based work and travel days.

The assignment will require at least one travel within the ECCAS region to organise and execute a regional stakeholder training and validation workshop for four (4) days (excluding travel days). The financial offer should include all expected travel costs of the staff of the service provider.

Deliverables	Months											
	1	2	3	4	5	6	7	8	9	10	11	12
Deliverables 1: Inception report												
Deliverables 2: Baseline Needs Assessment Report												
Deliverables 3: Draft regional MEPS and compliance strategy framework, ready for adoption												
Deliverable 4: Regional training and validation workshop, endorsed and validated regional MEPS & implementation and compliance strategy; An awareness raising strategy and capacity-building activities, and; A final report incorporating the outcomes & recommendations of the regional training and validation workshop.												

In addition, the contractor will be required to deliver the following:

- High-resolution photographs (min. 3 MB, at least 30) – that illustrate the undertaken activities. The consultants will cede all appertaining rights to unlimited use of the respective pictures to UNIDO, CEREEAC and ECCAS.
- All used raw files and calculation sheets in editable form (e.g. xlsx). All files need to be handed over and become the property of UNIDO, CEREEAC and ECCAS. Collected data will be made public and distributed through the upcoming CEREEAC Sustainable Energy Knowledge Hub (SEKH) <http://www.cereecac.org>.



Note: All deliverables should be submitted in both French and English in electronic format to the UNIDO Project Manager and his coordinating team. In case of any delays, due to unforeseen circumstances, the service provider should notify UNIDO in writing on time.

5. Coordination and Reporting

The contracted service provider will report to the UNIDO Project Manager, in close coordination with the Executive Director of CEREEAC, as well as the project experts at CEREEAC, UNIDO HQs and the ECCAS Secretariat. Therefore, effective collaboration with the relevant personnel from these teams is required, to enable the seamless transfer of standards to the rest of the ECCAS region. All drafts and final deliveries are subject to the approval of UNIDO's Project Manager, in alignment with the above-mentioned coordinating teams.

All developed products under this assignment (incl. raw files and editable forms) will become property of UNIDO, CEREEAC and ECCAS.

The contractor should be available to start working immediately after the contract is signed, and should complete the assignment within the proposed duration.

Ad hoc reports and regular online coordination meetings may be requested, as and when necessary.

6. Language requirements

The main languages for the assignment will be French and English. As indicated, the deliverables will have to be provided in French and English.

7. Application Procedure, Qualification Requirements and Evaluation Criteria

Bidders are requested to submit their proposals by registering on the UNIDO e-procurement portal (<https://procurement.unido.org/>).⁶

Please refer to the Appendix 2 "Qualification Requirements and Evaluation Criteria" of the Bidding Documents for the full list of qualification requirements, and technical and evaluation criteria.

The commercial proposal must follow the instructions provided in Appendix 3 "Preparation of Financial Proposal" of the Bidding Documents.

8. Further information

- <https://open.unido.org/projects/M2/projects/200138>
- <https://www.unido.org/>
- www.gn-sec.net/
- www.cereecac.org/
- <https://ceeac-eccas.org/en/>

⁶ In case of difficulties, please contact the UNIDO Help Desk at procurement@unido.org.