

Draft ToR

SUMMARY

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I. SECTOR CONTEXT AND RATIONALE

• Regional and national context

The ECOWAS region is rich in important energy resources, including biomass, fossil resources (oil, gas, and coal) and renewable resources (hydropower, wind, solar, etc.). Despite this enormous energy potential, nearly 200 million people (about 60% of the region's total population of 370 million in 2017) have problems accessing electricity. The energy sector also faces significant structural challenges, particularly a power generation deficit, high electricity utility costs, additional costs for investment in renewable energy and an inefficient fossil energy supply system, as well as financial constraints related to their rising cost. These factors constitute obstacles to the development of the regional energy sector and limit the access of populations and companies to electricity at the level of ECOWAS Member States; which, in turn, also hinder the prospects for economic development and social progress in the region.

These constraints have been accentuated by a socio-economic environment dominated in recent decades by structural adjustment policies, energy sector reforms with more or less successful privatisations.

For example, and with reference to the indicators published by CEREEC in its regional progress report on renewable energy, energy efficiency and access to energy in the ECOWAS region¹, in 2017, the region's performance in terms of: (i) access to modern energy services; (ii) energy mix; and (iii) energy efficiency improvement, are as follows.

In 2017, just over half of **the regional population (52.3%) was connected to electricity and 54% of households had access to an electricity grid**; this represents an increase of 2.6% and 2.8%, respectively, compared to 2016. It should be recalled that the regional target for access to electrification in terms of the population with access to electricity is 65% by 2020. The level of access to electricity varies between a maximum of 90.1% of the population of Cape Verde, followed respectively by Ghana (84%), Senegal (72.6%); against a minimum level of 8.1% in Liberia, behind, respectively, Niger (16%) and Sierra Leone (17.8%).

• regulatory context

At the regional level, ECOWAS has adopted the following main regulatory texts:

- the ECOWAS Revised Treaty, Articles 28 and 55 of which legislate on the promotion, cooperation, integration and development of energy projects and sectors of the Member States of the Community in the context of the creation of a Customs Union with economic impact;
 - the ECOWAS Energy Protocol, establishing the legal framework for promoting long-term cooperation in the field of energy within ECOWAS, and based on complementarity and mutual benefits to increase investment in the energy sector and develop energy trade in the West African region;
 - the Additional Act establishing the ECOWAS Regional Electricity Regulatory Authority (ERERA);
 - the Decision on the Establishment of a West African Power Pool (WAPP);
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- the Regional Master Plan for Generation and Transmission of Electrical Energy and the Regional Directive on Securing Cross-Border Electricity Trade in the Regional Electricity Market, which already show the first steps towards a more competitive ECOWAS regional electricity market;
- the Directive on the organisation of the regional electricity market, which defines the general principles governing the regional electricity market within the framework of the ECOWAS Energy Protocol;
- WAPP Interconnected Networks Operations Manual which aims to ensure that all interconnected power systems of the West African Power Pool (WAPP), properly and efficiently operate the West African interconnected grid, and that they share equitably in the obligations and benefits resulting from the Interconnection. This document aims to enable all interconnected system operators to supervise the operation of the West African network and use it as a reference document. Its Provisions will be reviewed as necessary by the WAPP Engineering and Operations Committee.
- The ECOWAS Renewable Energy Policy (EREP) and the ECOWAS Energy Efficiency Policy (EEEEP) adopted by ECOWAS Member States in October 2012 and by ECOWAS Heads of State on 18 July 2013.

At the level of ECOWAS Member States, the preliminary exchange workshop on the Regional Electricity Code provided an opportunity to briefly review the legislative and regulatory framework of Member States. The Consultant will need to further develop this analysis as part of this study.

- **institutional context**

The Economic Community of West African States (ECOWAS) comprises 15 Member States: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal and Togo.

ECOWAS was created to promote integration as well as economic and political cooperation among States. As a trade union, it also aims to create a single large trading bloc through economic cooperation.

At the institutional level, it has the following main bodies:

- The Conference of Heads of State and Government;
- The Council of Ministers;
- The Community Parliament;
- The Economic and Social Council;
- The Court of Justice of the Community;
- The Commission, replacing the Secretariat since the reform of the structures on 14 June 2006 in Abuja, composed of a panel Commissioners provided by member States ;
- ECOWAS Bank for Investment and Development (EBID),

- The West African Health Organization (WAHO);
- The specialized institutions of ECOWAS in the field of Energy (ERERA, WAPP, ECREEE,);
- Ministries in charge of Energy in member countries;
- National regulatory bodies;
- Agencies dedicated to renewable energies, energy efficiency and rural electrification;
- National electricity companies and other operators including IPPs;
- Etc.

The major objective assigned to ECOWAS when it was created, and which is still relevant, was the achievement of economic integration and monetary union by 2004 at the latest. Economic integration was to be reflected in the creation of a West African common market with a densification of intra-regional trade, in addition to the harmonization of economic policies.

To improve people's access to modern, sustainable, reliable and affordable energy and to overcome energy poverty, West African states have opted to pool resources through the creation of a regional electricity market and the development of renewable energies.

- **context of access to electricity**

In 2017, **just over half of the regional population (52.3%) was connected to electricity and 54% of households had access to an electricity grid**; this represents an increase of 2.6% and 2.8%, respectively, compared to 2016. It should be recalled that the regional target for access to electrification in terms of the population with access to electricity is 65% by 2020. The level of access to electricity varies between a maximum of 90.1% of the population of Cape Verde, followed respectively by Ghana (84%), Senegal (72.6%); against a minimum level of 8.1% in Liberia, behind, respectively, Niger (16%) and Sierra Leone (17.8%)². In general, final consumption of modern energy services is less than 10% in more than two thirds of the 15 ECOWAS countries, illustrating the high biomass³ consumption.

- **energy efficiency context**

Energy efficiency is an integral part of the regional and national energy policies of ECOWAS Member States.

Indeed, the ECOWAS Commission developed and had adopted by ECOWAS Heads of State and Government, in July 2013, the ECOWAS Energy Efficiency Policy (EEP) which includes objectives, measures, standards and labelling as well as energy efficiency (EE) incentives. This policy must be implemented at regional and national levels, all fifteen ECOWAS countries were to adopt a five-year action plan to contribute to the achievement of ECOWAS regional energy efficiency objectives over

² Regional Progress Report on Renewable Energy, Energy Efficiency and Energy Access in ECOWAS region, Monitoring year: 2017, ECREEE

³ AFREC : Base de données énergétiques africaines – Edition 2016

the next two decades, including the achievement of targets: Reduction of electricity distribution losses from 15 - 40% to less than 10% by 2020 and Creation of sustainable energy financing instruments.

Information provided by the public services of Member States shows that 39.5% of the electricity produced (or 26,611 GWh) was lost in the ECOWAS region in 2017. These losses consist of 12% (2554 GWh) of non-technical losses for the countries that provided the data on this aspect. The WAPP Master Plan aims to reduce overall losses to 10% of the energy produced and distributed.

- **context of the energy transition: renewable energies and cleaner energy sources**

The ECOWAS Centre for Renewable Energy and Energy Efficiency (CERECEC), established in Praia, Cape Verde in 2009, is responsible for developing the renewable energy market and promoting energy efficiency in the region.

The ECOWAS Renewable Energy Policy (EREP) was adopted by ECOWAS Member States in October 2012 and by ECOWAS Heads of State on 18 July 2013.

The EREP provides for the development of National Renewable Energy Action Plans (NREAPs) by the fifteen ECOWAS Member States. In 2019, almost all countries developed their NREAPs, which will be implemented every five years to help achieve the targets set for 2020 and 2030. To this end, it is expected that laws will be enacted and that incentives and measures will be put in place by countries to achieve the targets included therein.

The renewable energy target (SEforALL) is 35% and 48%, respectively, in 2020 and 2030.

With reference to the total installed electricity capacity connected to the grid in ECOWAS, which was 22,619 MW in 2017, the equivalent of 417.3 MW is non-standard renewable energy installations and high hydropower. This renewable energy capacity represents 24.3% (5,504 MW) of the total capacity. Nigeria has the most installed capacity in grid-connected renewable energy with 1,941 MW, followed by Ghana with 1,615 MW and Cote d'Ivoire with 824 MW. Benin has 2 MW, while Niger and Guinea Bissau have no grid-connected power plants at the moment. The objective is to increase the share of renewable energy sources (including medium and large hydropower) in the regional electricity mix to 35% by 2020 and then to 48%, or 7606 MW, by 2030. As a reminder, the capacity in renewable energy excluding medium and large hydroelectric power is projected at 2,424 MW in 2020 and 10,606 MW in 2022, of which 3,457 MW, or 11%, is solar; wind energy is only 150 MW (or 1.5% of the total projected capacity by 2022).

- **context of interconnection**

In order to achieve its objectives of establishing cross-border electricity exchanges, ECOWAS has established the West African Power Pool (WAPP): created in 1999 and established in 2006 in Cotonou, Benin, with the mission of promoting and developing electricity production and transmission infrastructure and ensuring the coordination of exchanges between ECOWAS Member States.

WAPP brings together the electricity companies of ECOWAS Member States and aims to integrate national electricity systems into a regional electricity market with the ultimate goal of ensuring a regular, reliable and affordable supply of electricity to the populations of ECOWAS Member States.

Its mission is to promote the development of infrastructure for the production and transmission of electricity and to ensure the coordination of electricity exchanges between ECOWAS Member States.

The main challenges of the WAPP include achieving economies of scale on fixed and variable costs of the means of Production, increasing the reliability of the power system and diversifying the power supply capacities of member companies.

Two geographical areas A and B, composed of 7 countries each, have been created for the implementation of the WAPP Master Plan for Infrastructure Development:

- Zone A: Ivory Coast, Ghana, Togo, Nigeria, Niger, Burkina Faso and Benin;
- Zone B: Mali, Senegal, Guinea, Guinea-Bissau, Gambia, Liberia, and Sierra Leone.

In addition, the West African Gas Pipeline Authority (WAGPA) based in Abuja, Nigeria was established in 2003 under the West African Gas Pipeline Treaty to transport natural gas from Nigeria to Benin, Togo and Ghana for power generation.

- **context of sector regulation**

The ECOWAS Regional Electricity Regulatory Authority (ERERA) was established by the ECOWAS Assembly of Heads of State and Government held in January 2008. The Regulatory Board was created in January 2011.

Its general mission is to:

- Ensure the harmonization of policies, legislation and regulations through (i) Contribution to the establishment of a regulatory and economic environment conducive to the development of the regional market; and Establishment of a clear and transparent pricing methodology
- Ensure the regulation of trade: (a) Regulate cross-border trade in electricity; (ii) Establish tariff and transmission cost accounting rules; (iii) Approve tariff proposals; (iv) Assist national regulatory authorities at their request; (v) Develop regulations specifying Community regulations on cross-border trade.
- Monitor the proper functioning of the regional market: (i) Respect for the principle of free transit of electricity; (ii) Respect for technical and commercial regulations: conditions for access to the transmission system, market entry by operators; (ii) Prevention and sanction of anti-competitive practices: abuse of dominant position, risk situations; (iii) Dispute settlement; and (iv) Monitoring of technical, commercial and financial performance.

ARREC supports the ECOWAS Commission in defining the strategic orientations of regional policy and in harmonizing national electricity policies, laws and regulations. It also issues an opinion on the ECOWAS Commission's draft acts relating to the electricity sector.

II. JUSTIFICATION

- **Main challenges related to the implementation of a regional code**

In order to ensure the country's future electricity supply, the regional strategy as envisaged in the WAPP Master Plan aims to encourage hydropower and renewable energies, while intensifying efforts to promote energy efficiency.

WAPP and ERERA, have established the fundamental principles on regional market organisation and mandatory minimum harmonisation within a clear legal framework applicable and enforceable in each Member State and relating to the regional market are listed in Directive C/DIR/1/06/13 on the organisation of the regional electricity market adopted by the Council of Energy Ministers of the Member States on 24 May 2013.

This Directive does not address the following institutional aspects: role of Ministries, National Societies, independent producers, support for electricity development in rural areas, support for the promotion of renewable energy, agencies dedicated to renewable energy or energy efficiency, the development of legislative and regulatory measures to give the energy sector better visibility in its governance, particularly with regard to improving the governance of Member States' public electricity companies, improving the management of the sector in the Member States (strategic development plans, performance contracts, strategic documents, etc.) and setting up a monitoring and evaluation system.

Some of the following provisions, some of which are addressed by the Energy Protocol, would benefit from being consolidated in the Code with a view to promoting private investment in the energy sector, including the following aspects:

- sovereignty over natural resources that can be converted into energy,
- the legal ownership of the facilities,
- legal certainty,
- the treatment to be accorded to domestic and foreign investors, in this case the protection of private investors (nationalisation, expropriation except in explicit cases), the transfer of capital relating to private investments),
- the need to harmonize the institutional frameworks of member countries
- the need for Member States to have a uniform regulatory reference in different national contexts
- the definition of common principles or rules for the conduct of generation, transmission and distribution activities;
- take advantage of the enormous potential in Hydroelectricity and Solar Energy to create a regional market for private investment.
- the need for the member countries, in the perspective of the energy transition, to conduct studies on the integration of renewable energies into the transport network in order to avoid intermittency issues.

The aim will be to advocate for member countries to develop Smart Grid technology as a solution to address the problems of integrating renewable energy. These technologies include many tools and systems for grid management (smart metering, electricity storage, market models, controllable inverters and loads, etc.) that could be the subject of regulatory provisions that could be applied at Member State level.

Finally, the regional regulatory system will have to make a large contribution to new information and communication technologies in order to optimise energy flows and, in particular, to ensure a balance between supply and demand.

In total, the main aspects motivating the need for the development of an ECOWAS Regional Electricity Code can be summarized as follows:

- difficulties and constraints facing the sector;
- non-harmonization of pricing principles;
- uneven development of competition in the energy sector characterised by a low level of private sector involvement in the sector;
- the weakness of the interconnection of the networks of the member countries;
- the urgency of removing obstacles to energy trade between countries and the need to make progress in the operationalization of the regional market, in particular with a view to: achieving economies of scale on fixed and variable costs of means of production, increasing the reliability of the electricity system, diversifying the electricity supply capacities of member companies;
- legislative provisions relating to third party access to the network taken throughout the Member States but which have yet to be operational;
- the need for independent regulation in member countries as recommended by Article 10 of the ERERA Directive;
- The progress made in planning with the adoption, in 2018, of the ECOWAS Master Plan for the Development of Regional Means of Production and Transmission of Electric Energy 2019 - 2033 (Master Plan of WAPP);
- The need to take into account progress made in the promotion of renewable energies, especially the development of rural electrification and the off-grid, and energy efficiency through the adoption of appropriate policies at regional level (policies Renewable Energy and Energy Efficiency)

III. GENERAL OBJECTIVE AND SPECIFIC OBJECTIVES OF THE STUDY

The general objective of the study is to elaborate a regional code of electricity which establishes common and specific general provisions for the electricity sub-sector in the ECOWAS area and to harmonize the national legislations.

The specific objectives are as follows:

- make the electricity sector more attractive and more secure in the ECOWAS countries;
- improve the quality and continuity of service at an affordable cost;
- improve the governance of the regional electricity sector;
- foster competition in the sector;
- enable access for all to electricity services by referring to international initiatives, including SEforALL and SDG 7.

More specifically, the study aims mainly at:

- make the electricity sector more attractive and secure for potential investors / promoters at the regional level;
- incorporate provisions for the exploitation of renewable energy sources, so that the region can truly align with relevant international guidelines and take advantage of related initiatives;
- provide electricity users with better quality of service, at an affordable cost, in line with the principle of continuity, non-discrimination and integration;
- contribute to the improvement of the governance of the electricity sector at regional level, in terms of transparency, accountability, solvency and integration.

Subsequently, the consultant will propose a regional code of electricity highlighting at least the following points:

- general provisions.
- concepts and definition of the public utility of electricity
- operation of the public electricity service
- prerogatives and easements
- proposal for a Directive on common rules for the internal market and the regional electricity market
- Proposed directives for the harmonization of contractual provisions concerning the purchase / sale of electricity, and the connection and use of the transmission system

The regional code of electricity will also cover the following:

In terms of exercise title and related provisions:

- licenses for production, transmission, distribution, network access, retail sales and smart meter management;
- the process of applying for a title of exercise (license, concession, ...) and the related notices;
- the conditions for transferring a license to a third party,
- exemptions and exceptions;
- the conditions of the derogations;
- the conditions of revocation;
- Conditions and main provisions of the licenses and concession;
- Guide to Retail Licensing; *
- Review and proposed guidance for the enhancement of private public-private partnership frameworks in the electricity sector in the electricity sector legal frameworks at the member country level;

In terms of the electricity industry code:

- the code of balance, adjustment and stability;
- the code on the connection and use of the transport network;
- the distribution code;
- the network code;
- the main registration contract;
- the transport network manager code;
- the connection contract on the system's distribution and use network;
- the green agreement (encouraging the use of renewable resources and / or energy efficiency);
- the code relating to smart grids;

Code of Governance of the Electricity Industry:

- the code of good administrative practice;
- the code on the review of governance;

In terms of standards:

- technical standards
- Guaranteed quality of service standards
- safety standards and quality of supply (sales)

All these elements should not be considered alone, as the list is not exhaustive.

IV. MISSIONS OF THE CONSULTANT

- i. From the beginning of its mission, collect data at the level of Member States, the Energy and Mines Directorate and the specialized agencies of ECOWAS (WAPP, ECREEE, ERERA, AGAO, etc.);

These visits should enable the consultant not only to examine the situation in terms of actions and initiatives in accordance with the national codes in force and their implementing decree, but also to gather the necessary documentation and to exchange information on regional policies and initiatives related to the development of the regional electricity market, the regulation and development of renewable energies. The consultant will also ensure that during these country visits, to meet with the heads of national electricity companies, civil society, consumer associations, the private sector, consular chambers and households for consultation and discussion;

- ii. make a thorough diagnosis of the legislative, regulatory and institutional frameworks of the ECOWAS Commission in the energy sector and those of its member States, identifying the strengths and weaknesses of some of their provisions with regard to the relevance of consider them as national declensions of regional provisions;
- iii. benchmarking, a comparative study of best practices in electricity code at the level of similar Regional Economic Communities and at the level of ECOWAS member states;

- iv. be in phase with two ongoing regional initiatives namely the updating of the ECOWAS energy policy and the process of elaboration of membership of the Member States in the International Energy Charter with as a tool for business improvement, investment risk assessment;
- v. make relevant recommendations defining the outlines of the ECOWAS electricity code.

The Consultant will have to cross-check its recommendations with the ECOWAS Energy Protocol, establishing the legal framework to promote long-term cooperation in the field of energy in ECOWAS, and based on complementarity and mutual benefits in order to increase investment in the energy sector and to develop energy trade in the West African region, the Directive on organization of the regional electricity market which defines the general principles governing the Regional Electricity Market within the framework of the ECOWAS Energy Protocol, the Additional Act establishing the Regional Regulatory Authority for the Sector of Electricity of ECOWAS (ARREC), the Decision on the Establishment of a West African Power Exchange System (EEEEAO), the Regional Master Plan for the production and transmission of electricity and the regional directive on securing cross-border electricity trading on the regional electricity market in the energy market adopted in 2018 by the competent regional authorities already show the first steps towards the establishment of a more competitive ECOWAS regional electricity market.

It will also review commitments and regulations at regional (OMVS, UEMOA, OMVG), continental (African Continental Free Trade Area) and international relevant initiatives such as the Sustainable Energy for All Initiative (SEforAll), Development Goals Sustainable (SDG), in particular SDG7 and the various Conferences of the Parties (COPs) on climate including the Paris Conference.

- vi. Draft ECOWAS electricity code.

V. EXPECTED RESULTS

- the summary of the situation of the electricity sector within ECOWAS is elaborated
- thorough diagnosis and critical analysis of legislative, regulatory and institutional frameworks are made
- recommendations on relevant provisions allowing the harmonization of regulatory and institutional legislative frameworks are formulated
- the code of electricity is elaborated and validated

VI. DELIVERABLES

1) Inception Report :

This report should describe the Consultant's organization and work plan in the conduct of the study as well as any significant initial findings. This report must specify the time of use of each Expert according to the deliverables and confirm the submission dates of each required report.

2) Diagnostic and benchmarking report and recommendations outlining the code.

It will present in particular the synthesis of the information collected at the level of the ECOWAS agencies, the member countries and the Regional Economic Communities as well as an in-depth

diagnosis and a detailed and critical analysis of the legislative, regulatory and institutional frameworks of the ECOWAS and the Member States.

3) Draft Regional Code

Following the validation of the Diagnostic and Comparative Analysis Report, the Consultant will draw up the outline of the regional code and will conduct a participatory process to take into account the opinions of the actors in the formulation of the draft Code.

4) Draft final version of the Regional Code

Draft final report containing all the expected results of the mission and taking into account the comments of the stakeholders in the Report on the draft Code.

VII. PROFILE OF CONSULTANT

The Consultant must be a reputable energy company with at least 10 years of experience in the drafting of legislative and regulatory texts, in particular code of electricity. It must demonstrate proven practical knowledge in West Africa acquired through similar and relevant experiences in the energy sector in West Africa.

The Consultant firm will provide the following specialists a team composed of the following specialists:

1. A Legal Expert who assumes the role of Team Leader

a. Qualifications and skills:

Master's Degree in law with strong skills in organization, planning and analysis, particularly in the legal field of the energy sector.

Very good writing, presentation and reporting skills.

Ability to work in a multidisciplinary team

Good computer skills, including Microsoft Office

Knowledge of French or English; fluent in one and have excellent writing and speaking skills; the Portuguese would be an asset

b. General professional experience

- At least 15 years of professional experience of which at least 10 years in the field of legal mechanisms concerning the electricity sector.

- At least 10 years of experience in project management

- Understanding of issues related to the development of legislative, regulatory and institutional provisions including those harmonized for the integration of national systems into a regional electricity market

- Good knowledge of programming tools and action plan development;

c. Specific professional experience:

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- At least 10 years of experience in the development of the Market Code and / or Operating Code for regional power grids as well as related regulatory frameworks.

- Have proven practical knowledge of the environment of the energy sector in Africa, acquired through relevant experiences in the West African energy sector; working experience with African regional economic institutions would be an asset;

- at least 10 years of experience in the field of managing and coordinating teams of professionals of at least 10 people or more; as head of mission for conducting at least two similar or similar studies lasting more than six months.

- Knowledge of French and English (perfect in one of the two languages), Portuguese would be an asset ure present in the region

2. A Legal Expert, to support of the Team Leader, in drafting the texts in particular the legal aspects of the Code

a. Qualifications and skills:

- A lawyer with a degree of at least BAC + 5, in law.

- Good knowledge of energy sector legislation and regulations, particularly in the area of regulation of the economic energy sector (particularly pricing) and institutionalization of the regional electricity market.

- Solid knowledge of the various legal schemes that can be envisaged for the public-private partnership in the energy sector, in particular the Energy Purchase Contracts and the procedures for their contractualization.

- Very good writing, presentation and reporting skills

- Ability to work in a multidisciplinary team

- Good computer skills, including Microsoft Office

- Knowledge of French or English (perfect in one of the two languages); Portuguese would be an asset.

b. General professional experience:

- At least 10 years of professional experience in the field of legal mechanisms concerning the energy sector

- Have prior relevant experience in assistance and advice, to African Governments or Regional Communities in the development of legal and regulatory texts (Electricity Laws and Code) and in the establishment of regulatory authorities utility regulation especially electricity.

- Good knowledge of legal and contractual arrangements in the electricity sector in general as well as in the development of Public Private Partnership and / or Independent Power Producer; experience in a regional market would be an advantage.

- Ability to work in a multidisciplinary team

- Writing, presentation and reporting skills

c. Specific professional experience

- Good knowledge of the legislative and regulatory context of the energy sector in the ECOWAS region.
- Relevant experience in the development of a legal and regulatory framework, preferably the elaboration of the Electricity Code, in Africa particularly in West Africa;
- Have conducted at least two (2) similar missions to this.

3. An Electrical Engineer Expert with relevant experience in electrical interconnections, renewable energies and energy efficiencies...

a. Qualifications and skills:

- Engineer's degree or a Master's degree in Public Policy, Electrical Engineering or Electro-mechanics;
- Knowledge of international best practices in planning in the energy sector in general and particularly in the electricity sector;
- Excellent writing, presentation and reporting skills.
- Ability to work in a multidisciplinary team
- Good computer skills, including Microsoft Office
- Strong planning, data analysis and strategic study skills over the medium and long term.

Knowledge of French, English (perfect in one of the two languages); Portuguese would be an asset

b. General professional experience

- At least 10 years of experience in the energy sector, particularly in the following areas:;
 - a) Generation, Production, Transmission and Distribution of Electricity
 - (b) Tariff studies
 - (c) Regulation of the Electricity Subsector
 - d) Energy efficiency and renewable energies
 - e) The exchange of electrical energy
 - f) Elaboration of electricity code (grid code and market code)
- Previous experience in the preparation of studies including electrical system planning in developing countries and in the electricity sector, the development of strategies, sector reforms and restructuring of the electricity sector.
- Knowledge of the environment in the electricity sector in Africa;
- Perfect knowledge of French (working language) vs. Specific professional experience:
- Good knowledge of energy policies at ECOWAS level as well as issues of regional regulation of the electricity sub-sector and operational agreements of WAPP.
- Have a good knowledge of the context of the electricity sector in West Africa;
- Have conducted at least two (2) similar or similar studies as the Electrical Expert.

4. An Expert in Finance and Economics with relevant experience in tariff regulation and tariff modeling

a. Qualifications and skills

- a Master in Finance or Economics
- Strong skills, as an economist analyst or financial analyst, in conducting detailed economic and / or financial analyzes, including conducting business cases for the energy sector;
- Good control of the tariff aspects and the definition of possible modes of regulation in the electricity sector
- Excellent writing, presentation and reporting skills
- Ability to work in a multidisciplinary team
- Good computer skills, including Microsoft Office
- Knowledge of French and English (perfect in one of the two languages), Portuguese would be an asset

b. General professional experience

- At least 15 years of professional experience as an economist or financial analyst in companies or agencies of which at least 10 years in the electricity sector in terms of economic, financial and pricing regulation in the electricity sector.
- Skills in the financing of projects and the development of financing scheme.
- Good understanding of the issues related to the analysis of alternative structures for the electricity sectors, to the introduction of competition in the electricity sector; and drafting of development master plans

Justify an experience of at least 5 years in economic studies or in financial modeling,

c. Specific professional experience

- Good knowledge of the context of the energy sector of ECOWAS including the investment environment and the challenges of its financing; knowledge in the field of regional regulation of West Africa and WAPP agreements will be an asset.
- Relevant experience in the development of energy sector project financing programs in Africa including PPP operations in West Africa;
- Solid experience in conducting detailed economic and / or financial analyzes, including conducting business cases studies for various infrastructure sectors at the regional level
- Have conducted at least two (2) similar studies in this study
- At least 10 years of professional experience in the energy sector.

VIII. The maximum period granted to the experts to be taken into account in the evaluation of tenders is indicated as follows:

| Profiles | Working days (22/man-month) |
|--------------------------------|--------------------------------|
| Legal Expert – Team Leader | 80 |
| Energy Economist and Financier | 45 |
| Senior Electrical Engineer | 60 |
| Legal expert | 30 |
| <u>Total</u> | <u>215</u> |

IX. INCIDENTAL EXPENDITURE

The Incidental expenditure allocated will cover all costs related to expert travel, workshops for validation of the drafts reports and the perdiems, etc.

X. DURATION OF THE MISSION

Table 1 : Reporting schedule

| | Description | Responsibilities | Number of copies | Duration (months) | Target Date (months) |
|----|-----------------------------------------------------------------------------------------|-------------------------|----------------------------|-------------------|----------------------|
| 1 | Beginning of services | | | | Mo |
| 2 | Draft inception report | Consultant | 3 in English + 3 in French | 0.5 | Mo+0.5 |
| 3 | Validation of the Startup Report | CEDEAO | | 0.25 | Mo+0.75 |
| 5 | Revised startup report | Consultant | 3 in English + 3 in French | 0.25 | Mo+1 |
| 6 | Diagnostic and benchmarking report and recommendations defining the outline of the code | Consultant | 3 in English + 3 in French | 3 | Mo+3 |
| 8 | Validation of the Diagnostic Report | CEDEAO + Etats membres | | 0.75 | Mo+3.75 |
| 9 | Revised diagnostic report | Consultant | 3 in English + 3 in French | 0.25 | Mo+4 |
| 16 | Draft Regional Code | Consultant | 10 in English 15 in French | 5 | Mo+5 |
| 17 | Approval Workshop for the Draft Code | CEDEAO et Etats Membres | | 0.5 | Mo+5.5 |
| 18 | Submission of the project final version of the regional code | Consultant | 10 in English 15 in French | 0.5 | Mo+6 |

The diagnostic report and the draft Regional Code will each be validated during a regional workshop to be organized in one of the ECOWAS Member States.

XI. Reference documents (Non-exhaustive list)

ECOWAS will provide the consultant with all the necessary support in the accomplishment of its mission and will make available the reference documents available within it, including in a non-exhaustive manner the ECOWAS Energy Policy, the Energy Protocol of the ECOWAS, the ECOWAS renewable energy policy, the ECOWAS energy efficiency policy, the efficient regional lighting strategy, the ECOWAS Electricity Production and Transmission Master Plan of December 2018, etc.