



Planning Energy
for a Sustainable World

ARTELIA Ville & Transport -
Département ICEA
50 avenue Daumesnil
75579 Paris Cedex 12– France
icea.paris@arteliagroup.com
Tél. : +33 (0)1 48 74 04 04
Fax : +33 (0)1 48 74 04 35

Regulatory Studies

Inception Report

(English Version)

PPA Energy
1 Frederick Sanger Road
Surrey Research Park
Guildford, Surrey
GU2 7YD, UK
www.ppaenergy.co.uk
Tel: +44 (0)1483 544944
Fax: +44 (0)1483 544955



Submitted to: ERERA

Date: December 2012

CONTENTS

1	INTRODUCTION.....	3
1.1	BACKGROUND.....	3
1.2	NOTES OF MEETINGS HELD IN DAKAR (19 TH TO 22 ND NOVEMBER, 2012).....	3
1.3	CONTRACT FINALISATION.....	4
1.4	NOTES OF MEETINGS HELD IN ACCRA (10 TH TO 15 TH DECEMBER, 2012).....	4
2	SUMMARY OF APPROACH TO STUDIES.....	6
2.1	GENERAL ASPECTS.....	6
2.2	ACTIVITY 1: DEVELOPMENT OF A 5-YEAR STRATEGIC PLAN FOR ERERA.....	7
2.2.1	Scope of Work.....	7
2.2.2	Revised work plan.....	8
2.3	ACTIVITY 2: DEVELOPMENT OF A REGIONAL PLAN FOR CAPACITY BUILDING.....	8
2.3.1	Scope of work.....	8
2.3.2	Work plan.....	9
2.4	ACTIVITY 3: DEVELOPMENT OF ACCESS RULES TO THE REGIONAL GRID BY ELIGIBLE CUSTOMERS.....	10
2.4.1	Data Collection.....	10
2.4.2	Scope of work.....	10
2.5	ACTIVITY 4: DEVELOPMENT OF TARIFF METHODOLOGY FOR REGIONAL TRANSMISSION COST & TARIFF.....	11
2.5.1	Scope of Work.....	11
2.5.2	Revised work plan.....	13
2.6	ACTIVITY 5: DEVELOPMENT OF BEST CONTRACTUAL PRACTICES.....	13
2.6.1	Data Collection.....	13
2.6.2	Scope of work.....	13
2.7	ACTIVITY 6: REGIONAL BENCHMARKING.....	15
2.7.1	Data Collection.....	15
2.7.2	Scope of work.....	15
3	STAFFING AND WORK PROGRAMME.....	17
3.1	MANAGEMENT AND STAFFING.....	17
3.2	WORK PROGRAMME.....	18
4	RISK MATRIX.....	19
	APPENDIX 1 – TERMS OF REFERENCE.....	21
I.	INTRODUCTION.....	21
II.	BACKGROUND.....	22
	<i>THE REGIONAL ELECTRICITY MARKET.....</i>	<i>22</i>
	<i>REGIONAL REGULATION DEVELOPMENT.....</i>	<i>23</i>
III.	OBJECTIVES OF THE ASSIGNMENT.....	23
1.1	RATIONALE.....	24
1.2	SCOPE OF WORK.....	24
1.3	EXPECTED OUTCOMES.....	25
1.4	PERFORMING THE ASSIGNMENT.....	25
1.5	TIME FRAME.....	25
1.6	REPORTING.....	25
A.	GENERAL.....	25
B.	INCEPTION REPORT.....	25
C.	MONTHLY ACTIVITY REPORTS.....	26
D.	DRAFT FINAL REPORT.....	26
E.	FINAL REPORT AND STRATEGIC PLAN.....	26

1.7	SCHEDULE OF MEETINGS	26
1.8	EXPERTS QUALIFICATION	26
2.1	NEED FOR CAPACITY BUILDING	27
2.2	OBJECTIVE	27
2.3	SCOPE OF WORK	27
2.4	EXPECTED OUTCOME	28
2.5	TIMEFRAME	28
2.6	REPORTING	28
2.7	DELIVERABLES	29
2.8	SCHEDULE OF MEETINGS	30
2.9	QUALIFICATION & EXPERIENCE	30
4.1	COMPONENT A – REGULATORY INSTITUTIONS	42
4.2	COMPONENT B – MARKET OPERATORS	43
	APPENDIX 2 – FINAL REVISED WORK SCHEDULE.....	46
	APPENDIX 3 – PRESENTATION GIVEN IN DAKAR	47
	APPENDIX 4 – COUNTRY CONTACTS	53
	APPENDIX 5 - QUESTIONNAIRE	54

1 Introduction

1.1 Background

This project covers the first two of three lots for which ERERA requested proposals related to support for the pan national regulatory systems in West Africa, covering the 15 ECOWAS countries.

Artelia of France, in consortium with PPA Energy of the UK, were advised that ERERA wished to award the project to them in November 2012. The project includes the following:

Lot	Activity	Description
1	1	Development of a five year Strategic Plan for ERERA
	2	Development of a Regional Plan for Capacity Building
2	3	Development of Access Rules to the Regional Grid by Eligible Customers
	4	Development of Tariff Methodology for Regional Transmission Cost and Tariff
	5	Development of Best Contractual Practice
	6	Regional Benchmarking

A copy of the terms of reference for the project are enclosed in Appendix 1.

1.2 Notes of Meetings held in Dakar (19th to 22nd November, 2012)

Artelia and PPA Energy were invited to the 3rd Regional Forum which was held in Dakar, Senegal at the end of November. The visit was made by Marie d'Arifat of Artelia and Neil Pinto of PPA Energy. Prior to the formal start of the forum, the consortium was invited to discuss the proposal, and was advised that ERERA required the project to be completed within a five month period. In addition the consortium was requested to optimise the scheduling of the different activities such that the meetings and presentations could, to the extent possible, be co-incident thereby minimising the travel requirements for ERERA and country representatives.

Following the completion of the forum, the consortium made a short presentation to the two consultative committees of ERERA, in which the overall scope of work was explained and a provisional overall plan of work presented, taking account of the revisions which had been requested by ERERA. Soft copies of the presentation in both French and English were provided to ERERA. A copy is shown in Appendix 3 to this report.

During the presentation it was made clear that the timely and accurate submission of data to the consortium would be key in ensuring the completion of the reports within the requested timescale. This was a subject for some concern on the part of all present. The submission of the questionnaires to the member countries, together with the co-ordination of responses, is the responsibility of ERERA. It was agreed that each country would nominate representatives from the regulatory agency, or in the absence of a regulatory agency from the ministry, who would be the country focal point for the responses. The consortium is committed to deliver the questionnaire covering all six tasks during the inception mission to Accra, so that it can be sent to nominated focal points during the week commencing 17th December 2012.

During the mission in Dakar, ERERA requested a final meeting to review and finalise the overall project programme. To allow the meetings to be held simultaneously, some of them were after the date of the presentation of the final reports, as indicated by the terms of reference. Presentations would, however, be necessary to discuss the draft reports of the different tasks prior to the submission of final reports. The consortium agreed to resubmit the programme with this amendment.

1.3 Contract Finalisation

A revised programme was produced, as shown in Section 1.1 of this report.

1.4 Notes of Meetings held in Accra (10th to 15th December, 2012)

The consortium mobilised a seven person mission for a visit to ERERA's headquarters in Accra, Ghana, in order to collect information available direct from ERERA and to finalise the questionnaire for submission to the countries. The participants in the mission were as follows:

Company	Name	Role
Artelia	Marie d'Arifat	Coordinator Activity 2
	Jean-Pierre Delhaise	Coordinator Activity 3
	Mournir Meddeb	Coordinator Activity 5

Company	Name	Role
	Bernard Sanchez	Coordinator Activity 6
PPA Energy	Neil Pinto	Project Director
	Don Webster	Coordinator Activity 1
	Mike Woode	Local coordinator and interface with ERERA

ERERA confirmed their agreement to the revised programme of work.

During the mission one on one meetings were held between appropriate ERERA staff (the Council members and M. Bangoura) and the coordinators of each of the activities in order to determine the extent of information which was available from within ERERA records. These meetings also ensured commonality of understanding between ERERA and the consortium. Dr Chown, the coordinator for activity 4, was not available to participate in the mission and Neil Pinto therefore covered this area.

2 Summary of Approach to Studies

2.1 General aspects

As detailed in our proposal, initial meetings have been held in Accra. The objectives of these meetings have been as follows:

- Finalise and agree the questionnaire with EREERA such that EREERA can transmit it to the nominated focal points in the different countries;
- Finalise the selection of the six countries to be included in the circular tour scheduled for the end of January;
- Initiate discussions with the appropriate bodies and organisations in Ghana to commence the data collection exercise locally in Accra. These initial discussions were held with PURC, VRA and the Energy Commission. GridCo have been contacted but were not available.

The following items were agreed with EREERA over the course of the meetings:

- Questionnaire: A first draft of the questionnaire was distributed to Council members so they could make their remarks and comments. The final questionnaire was dispatched on Friday 14th December with this report (see Appendix 5), with an electronic copy tailored to each country ready for dispatch on Monday 17th December. EREERA has the responsibility to send the questionnaire to the contact persons it has identified in different countries during the week commencing 17th December, and then to follow up as it considers necessary to ensure the return of the questionnaires in a timely manner. Taking into account the New Year holiday period, it was agreed to allow a one month period to the contact persons for the return of the completed questionnaire, i.e. until 20th January 2013.

The importance of receiving responses from the questionnaires in a timely manner is vital to the project. Given the strict deadlines for the study, and the shortened timescale relative to the original terms of reference, information that has not been obtained in early February after the mission circular cannot be properly taken into account in the analysis undertaken by the consultant.

- Countries to be included in circular tour, scheduled over the period 28th January to 6th February 2013: The consultant noted that six countries are to be visited in addition to Ghana, in order to clarify responses to the questionnaire and obtain more detailed information. To be effective, these visits should take place once the questionnaires have been returned. Two approaches are possible regarding the choice of countries to visit: firstly focusing on countries that transmitted little or no information or secondly concentrating on

the most "important" in order to achieve the objectives of study, This second approach seems the best option. The list of countries is agreed as follows:

- Francophone countries
 - Côte d'Ivoire
 - Senegal
 - Togo
 - Burkina Faso
- Anglophone countries
 - Nigeria
 - Ghana (data to be collected by local representative)
 - The Gambia
- ERERA offered to contract the appropriate authorise in these countries to assist in the provision of visas, and to arrange meetings.

Following the signature by the consortium members of the confidentiality agreement, copies of contracts for the sale of electricity between specific member states were provided by ERERA as follows:

- Contract CIE – SONABEL between Burkina Faso and Côte d'Ivoire, 6 November 1997
- Contract VRA – SONABEL between Burkina Faso and Ghana, 22 March 2000.

Other documents which were collected were mainly associated with the 2006 - 2009 ICEA studies for the implantation of ERERA and documents related to ERERA's activities and organisation. The consultant noted that there is currently no organised database providing access to detailed information by country.

2.2 Activity 1: Development of a 5-year Strategic Plan for ERERA

2.2.1 Scope of Work

The ToR identifies 16 separate sub-tasks. From these sub-tasks it is clear that a traditional approach is to be followed in the development of the Strategic Plan. The Plan itself will, in essence, provide clear guidance on: a) ERERA's objectives, b) ERERA's stakeholder relations, and c) ERERA's performance management.

The approach to the Plan's development essentially has three basic components: i) an evaluation of the current status of ERETA, ii) setting goals and targets over the 5-year horizon, and iii) mapping a route to attain these goals and targets. A conventional SWOT analysis (i.e. analysing internal factors – the Strengths and Weaknesses of the organisation – and external factors – the Opportunities and Threats in the environment that ERETA operates in) will be undertaken.

The internal analysis will draw from interviews with senior ERETA personnel and sample stakeholders, and also from a review of how successful it has been in accomplishing the mandated obligations. Historical Activity Plans will be reviewed against actual outturns.

For the external analysis, a form of PEST analysis will be undertaken, addressing the Political, Economic, Social, Technological, Legal and Environmental factors impinging on ERETA. This PEST analysis will draw heavily on a review of reports and other documents to be supplied by ERETA.

Strategy development will consider what elements are required in the Action Plan to harness strengths and mitigate weaknesses in order to capitalise on opportunities whilst obviating or mitigating the risk of identified threats.

ERETA has a large number of stakeholders; many of these are national bodies – regulators, ministries, operators – and many of the remainder are regional bodies such as WAPP, WAGPA and various ECOWAS institutions. The donor community is an important stakeholder for ERETA, although the composition of this group is fluid over time. Stakeholder analysis will be undertaken in order to ensure that the Plan takes good account of this special relationship.

In addition to the inclusion of set of 5-year targets in the Plan, recommendations on a continuous performance management cycle will also be included to help ensure that targets and goals are achieved.

2.2.2 Revised work plan

There is no change to the work plan.

2.3 **Activity 2: Development of a regional plan for capacity building**

The objective of activity 2 is to allow ERETA to have a plan for capacity building covering the National Regulatory Authorities (RAs), and Ministries, in particular in the case where the RAs do not yet exist, and WAPP and national operators.

2.3.1 Scope of work

The main points of clarification raised are:

1. The ToR indicate that ERERA considers it necessary to hire a consultant to conduct an assessment of technical capacity and professional needs of ERERA, WAPP and other national regulators of electricity in order to allow them to achieve their goals. The ToR also mentions public operators.

The consultant notes:

- WAPP already has a major program of capacity building regional dedicated to its own staff and to the public operators. This program includes a section on regional regulation.
- ERERA's mission is to strengthen the capacity of control and it needs to focus on the regulatory bodies.

It was agreed that the plan prepared by ERERA should not overlap with the existing one. Thus, in regard to the WAPP and public operators, the proposed reinforcement of capacity will be limited and focused on the interfaces between national and regional regulation and between the various regional institutions issues. There will therefore be no further assessment of training needs for WAPP or the national operators.

2. The ToR require a review of all relevant training materials including various training reports of regulatory bodies, ministries, public services, ERERA, and WAPP. ERERA only has information about its own staff. As mentioned in the previous section, we will focus our analysis on existing material on the national regulatory bodies, and if appropriate at the level of the relevant Ministries. However, results depend on the return of the questionnaire and the mission circular.
3. Regarding the establishment of a regional plan for the capacity building, it is necessary to define priorities as there are many competing needs. Thus, it was agreed that the priority of the plan is to assist ERERA in the implementation of its program of activities. Once the needs of the countries have been surveyed, work should be undertaken to ensure the planning of training is consistent with the ERERA strategic plan.

2.3.2 Work plan

On the work plan only one point has been raised:

Given the launch date of the study, it will not be possible to submit an assessment report on training needs by 26th January 2013, as provided by the schedule shown below, since it requires the return of questionnaires. It was therefore agreed that this report will focus on the principles that will guide the development of the regional plan for capacity building.

2.4 Activity 3: Development of Access rules to the regional grid by eligible customers

2.4.1 Data Collection

In addition to presentations produced during the last meeting held in Dakar, the information received at the headquarters of ERECA and relevant to this activity is mainly:

- WAPP Masterplan prepared by Tractebel;
- Regional Electricity Market Study prepared by Mercados;
- Methodology to Calculate the Demand and Energy Components of a Transmission Tariff within WAPP, by Nexant; and
- White Paper for a regional policy on third party access within the ECOWAS area, prepared by Neurones

In practice, there is not data or other information available from within ERECA which can be used for the execution of this Activity and therefore the consultant will be totally dependent on information acquired through the questionnaire.

2.4.2 Scope of work

The meetings helped to clarify the following points:

1. The consultant has to prepare a national strategy paper for opening of their respective electricity sectors for the ECOWAS member states, taking into account regional perspectives

The discussion focused on the objectives of open access to the transmission systems. Several factors should be taken into account, including the urgency to increase the interconnected generation capacity, the timescale for the opening to large groups of customers and the WAPP project (recent) to create a specific market for cross border trade independently from the process of opening national markets.

Since the initial paper must be issued in January 2013, (i.e. during the process of gathering information specific to each country), it will not be possible to discuss each country individually but rather will endeavour to establish broad guidelines for opening.

2. Two major issues relate to the determination of action plans:
 - a. The implementation of specific tariffs for access to, and use of, transmission and distribution systems are essential actions. The contribution of the Consultant will be the presentation of a methodology

for calculating tariffs of access and use of transmission and distribution networks.

- b. The variation in the power sector status quo in different countries (legal and regulatory framework, sectoral organisation, etc) will make it necessary to identify different sets of actions to be applied (or not) depending on the initial situation. It is therefore anticipated that we will probably have to create groups of countries according to the extent of actions.
3. Recommendations for the organisation of open access transmission networks in the context of a wholesale national market or sub-regional, face similar issues to the above. Recommendations (or sets of recommendations) common to several countries will therefore be developed for each group of countries identified in the previous phase.

2.5 Activity 4: Development of tariff methodology for regional transmission cost & tariff

2.5.1 Scope of Work

This Activity involves the recommendation as to an appropriate methodology which can be adopted across the ECOWAS countries for the determination of transmission tariffs. The methodology should be applied for the calculation of transmission tariffs in the countries which are buying and selling power, as well as third countries through whom the power might flow.

It is important to recognise the work is associated only with the transmission element of the tariff. The overall tariffs for energy exchanges will be governed by rules for bilateral contracts and the day ahead market. These tariffs will be dictated by the market rules, and will not be subject to regulation by ERERA. They should, however, include remuneration to the appropriate transmission companies.

As noted in the Terms of Reference, there are a number of key issues which need to be covered within the tariff:

- Responsibility for determination of, and payment for, losses incurred as a result of the energy trading flows;
- Use of system charges, covering:
 - Operation and maintenance costs;
 - Return on equity and allowance for depreciation; and

- Costs incurred as a direct result of the resolution of transmission constraints caused by the energy trading flows.

Following a review of the responses to the questionnaires, and the reports associated with existing arrangements for transmission pricing, we will review the Nexant study¹ which was completed for WAPP in 2008 and was funded by US-AID. This work was undertaken prior to the creation of EREERA, and we will follow up with WAPP the extent to which agreement was reached between the countries.

In parallel with this activity we will also review the approaches which have been adopted by others. As was noted in our proposal, of particular relevance is the evolution of the SAPP methodology, which PPA Energy was responsible for drafting.

The transmission tariff methodology should aim to be economically efficient, transparent, and easy to calculate and to update. In practice these objectives are not often complimentary – tariffs which are easy to calculate seldom achieve the object of fairly compensating the different parties. It is therefore anticipated that it will be necessary to clearly elaborate these problems in the initial assessment reports, and to guide delegates through the implications of the alternative approaches in the scheduled workshop.

At the workshop scheduled subsequent to the submission of the draft assessment report, we will present viable alternative methodologies. It will be important to achieve a consensus as to the appropriate methodology to be adopted, which will then be further developed in the final assessment report.

Having selected the appropriate methodology we will then design a template which will allow recovery of fees payable to EREERA to ensure its future financial viability and develop an Implementation Plan for the introduction of the proposed methodology.

The above work will cover transmission pricing related to international trading. Under Activity 3, it is also necessary to propose an appropriate transmission pricing methodology consistent with the requirement for equitable third party access. It is recognised that there is likely to be wide disparity between the approaches adopted by different countries. We will seek to propose an approach which, in the longer term, is compatible with the methodology agreed for transmission tariffs related to international trading.

¹ “A methodology to calculate the demand and energy components of a transmission tariff within WAPP”, Final Report, October 2008, Nexant

2.5.2 Revised work plan

The work plan has been optimised relative to that proposed in the Terms of Reference to ensure the coincidence of workshops and meetings with those proposed in other Activities.

As noted above, at the workshop planned following the submission of the draft assessment report, we will present the alternative methodologies for consideration, outlining the advantages and disadvantages of each. Presentation and training in the agreed approach will be given following submission of the final evaluation report. We have proposed a short period between completion of this training and the submission of the final report (rather than completion of the report at the training session, as proposed in the Terms of Reference) to ensure that appropriate stakeholder comments are reflected in the final documentation.

2.6 **Activity 5: Development of best contractual practices**

Activity 5 focuses on the development of contractual best practices in order to harmonise existing bilateral contracts which govern electricity cross-border trading of electricity, and the preparation of a guideline for the harmonisation of these key contracts.

2.6.1 Data Collection

In order to undertake the work it is necessary to have:

- All national / regional legal rules and treaties/protocols governing the cross-border trade of electricity and governing bodies acting in this sector, in particular ERECA;
- The main bilateral contracts and wholesale contracts as well as the contracts governing access and connections to transmission networks.

2.6.2 Scope of work

According to the ToR, the scope of Activity 5 includes the following, with an initial view in italics:

- Review relevant laws, decisions, etc.
Relevant documents are available, partly from ERECA documents and partly through consultant research
- Sectoral analysis of the regional energy market, especially the activities of the national regulatory bodies and utilities in the ECOWAS region
An update will be made from existing ERECA reports.

- Comparative study of other existing regional markets, with preparation of an inventory of the best contractual practices to be shared
An update will be made from existing EREERA reports.
- Consider any need for amendments to the enabling law of the EREERA, and make necessary suggestions
This review will be limited to matters related to cross-border trade of power
- Conduct a study to identify all existing bilateral contracts which govern electricity cross-border exchanges and their key Terms and Conditions
This study can be done only the relevant contracts have been passed to the consultant.
During the initial meeting in Accra it was noted that bilateral contracts, wholesale contracts and contracts for access to the transmission system mentioned in the ToR are not available at the EREERA headquarters. Particular attention is drawn to the absolute necessity of having a copy of the relevant contracts mentioned above.
Only through a review of the documentation can the analysis of the difficulties raised by these contracts be conducted, and a statement of best contractual practices be developed drawing on the legal, economic and technical realities. This is a key point which could affect both the volume of work and the planning.
- Advise EREERA on the development of contractual best practices in order to convert the bilateral contracts into wholesale contracts
This study can be done only after obtaining the relevant contracts
- Identify the critical issues about power exchange agreement, and prepare a guideline for the harmonization of key contracts on cross-border electricity exchanges
This study can be done only after obtaining the relevant contracts
- Conduct research for the drafting of reference legal framework for the implementation of wholesale energy contracts or other contractual arrangements, including the Use of Network Agreements, Power Purchase Agreements, and Concession Agreements
As agreed, the scope of this Activity is mainly to make recommendations on a reference legal framework
- Prepare harmonised Model Contracts for the ECOWAS region
The harmonised Model Contracts will be prepared according to the best contractual practices identified
- Conduct workshop(s) involving all stakeholders in the regional market to train and build consensus

As agreed, the workshop will be conducted by the consultant primarily with an educational objective in order to ensure that participants have a good understanding of the terms of Model Contracts proposed.

Four people per state (regulator, companies) and members ERERA could attend this workshop.

2.7 Activity 6: Regional Benchmarking

The goal of this Activity is to produce a comprehensive report, with a benchmark of performance indicators for both multiple operators and national regulators. The benchmark covers all ECOWAS countries and seeks to highlight the practice of regulation, the performance of public services and national regulators, financial and technical performance of the sector and operators.

2.7.1 Data Collection

ERERA advised that they would provide documentation containing a description of the institutional framework of the energy sector in member countries.

It is stressed that the relevance of the results and analysis of this activity is totally dependent upon the provision to the consultant of information.

The consultant has some information gathered from previous missions in ECOWAS countries, which can be used to complement information that might be submitted to the consultant. However, as the Benchmark has to cover different countries and institutions, only officially reported data and public sources may be used. It is therefore necessary to focus on the importance of the timely return and accurate completion of the questionnaires, so that all countries can be part of the Benchmarking exercise.

It is emphasised that the programme of work by the consultant is based on the assumption that benchmarking obtaining data will be readily provided.

2.7.2 Scope of work

Two points from the terms of reference have been raised:

1. The terms of reference indicate that “The Consultant could refer to the manual of AFUR on Key Performance Indicators”.

As this manual is not available on Internet, the Consultant has requested that a copy be sent in order to verify the possible indicators that could, additional those already available in the Handbook for Evaluating Infrastructure Regulatory Systems (Brow, Stern et al., 2006, World Bank), from which the Consultant

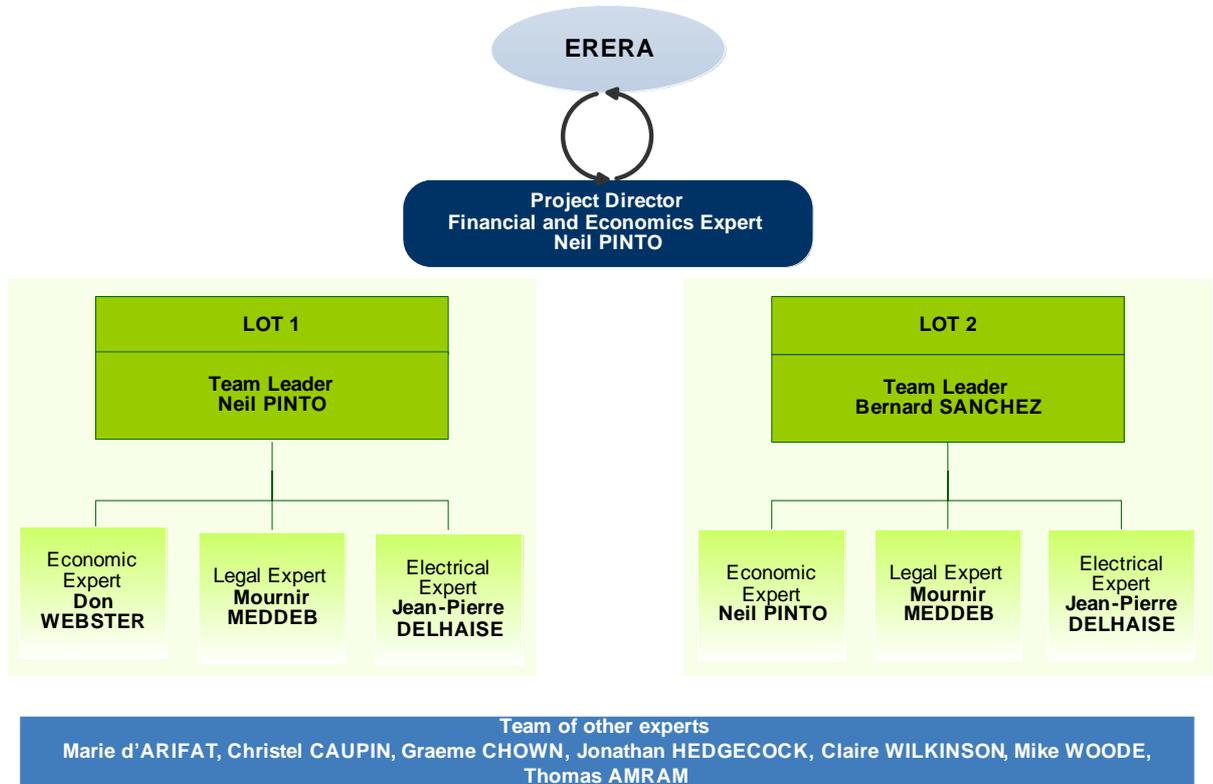
developed the questionnaire. EREERA said it would forward available information to the Consultant.

2. The terms of reference indicate that the consultant must provide a “Review of the different institutional set up of different regulatory bodies and how it affects their performance and effectiveness or regulatory productivity (value of money comparison)”.

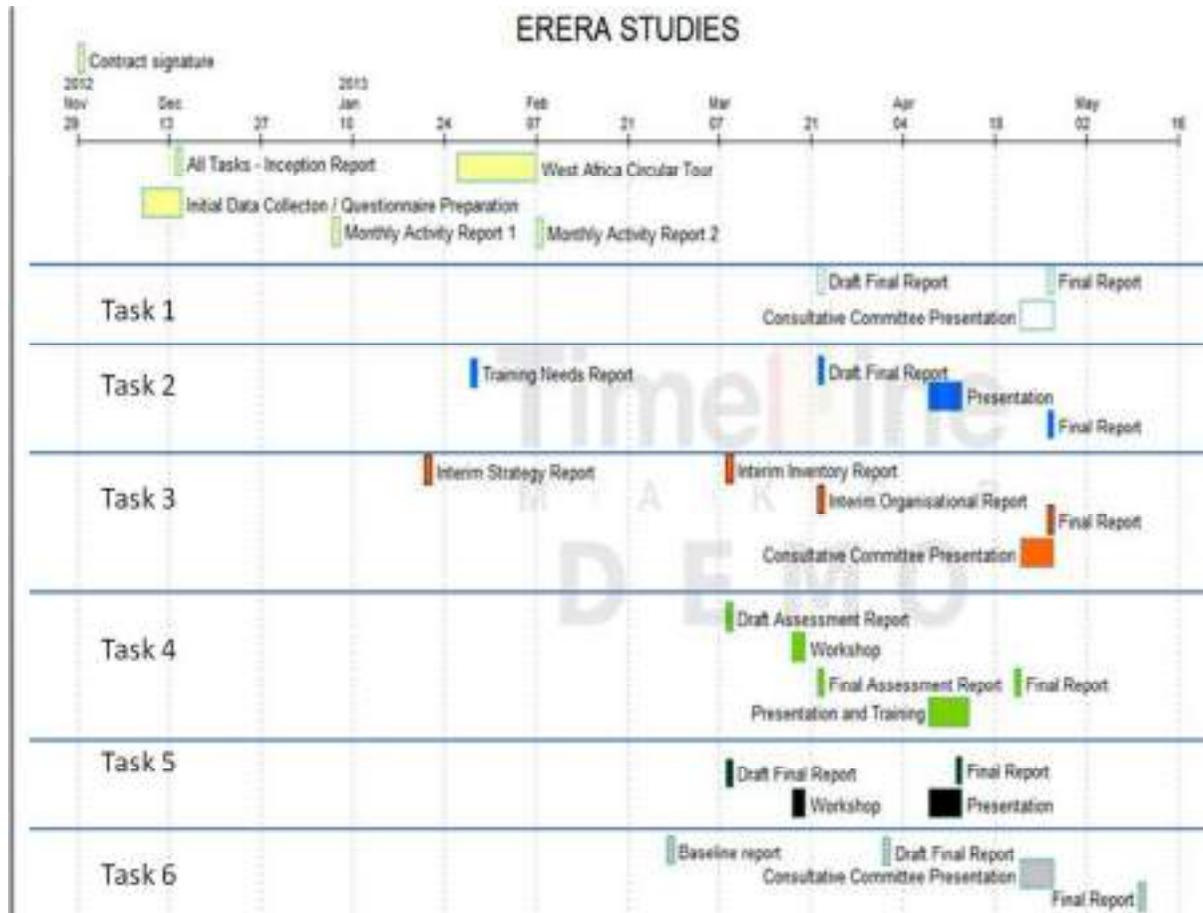
The consultant asked EREERA about their expectations in terms of “value for money”. The consultant pointed out that on one hand the relative youth of state regulators made it difficult to identify the direct effects of regulation, on the other hand it is almost impossible to clearly separate the effects of regulation inherent in those industry dynamics, and finally the quality of the information provided would surely be difficult to quantify. EREERA agreed that their expectations were more qualitative than quantitative and that the evaluation of the effectiveness of each regulator should be based on indicators such as the number of reported cases, the number of resolutions of referrals, the number of public consultations conducted.

3 Staffing and Work Programme

3.1 Management and Staffing



3.2 Work Programme



4 Risk Matrix

The matrix below identifies some of the risks to the satisfactory completion of the project within the proposed timescale, as identified at the outset of the assignment.

Activity	Risk	Impact	Proposed mitigation
All	Delay in return of questionnaire	High – will prejudice the value of the whole project	ERERA to maintain pressure on appointed local representatives in each country
All	Incomplete data in questionnaire	High – will prejudice the value of the whole project	ERERA to maintain pressure on appointed local representatives in each country
3	Difficulties in harmonisation of national transmission pricing methodologies	Medium – will prejudice the development of tariffs which fairly treat eligible customers	ERERA to support consultant and highlight agreements already made with regard to open access in the WAPP energy protocol
3	Differences between utilities / national regulatory regimes between the different countries complicate definition of eligible customers	Medium	ERERA to support consultant and highlight agreements already made with regard to open access in the WAPP energy protocol
3	Financial status of transmission / distribution businesses would appreciably	Medium	ERERA to support consultant and highlight agreements already made with regard to open access in the WAPP



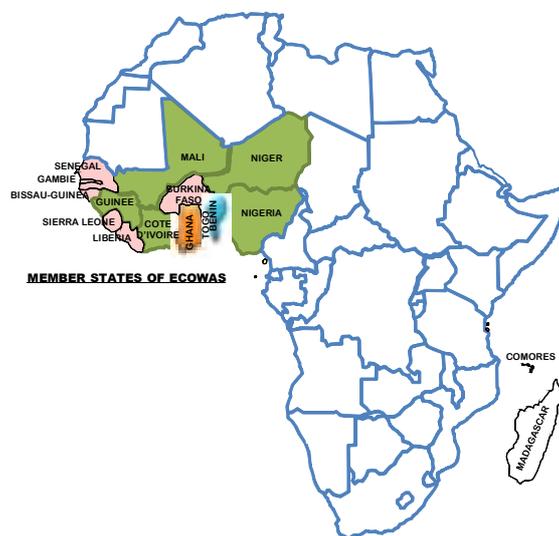
Activity	Risk	Impact	Proposed mitigation
	deteriorate in context of open access		energy protocol
4	Failure to achieve consensus viewpoint on transmission pricing	Medium – will stop the development of an open market in the long term	ERERA to select and approve appropriate methodology
5	Existing bilateral contracts between ECOWAS states have terms which extend into the future. There may be difficulties in the acceptance of a harmonised approach which will involve their replacement with new contracts.	Medium	ERERA to propose a plan for the replacement of the contracts when they expire.in line with the recommendations from the study
6	Substantive structural and other differences between utilities /regulators in different countries limits the applicability of the benchmarking process	Medium	Consultant to limit comparisons to countries of similar size / structure / regulatory environment

APPENDIX 1 – TERMS OF REFERENCE

I. INTRODUCTION

The Economic Community of West African States (ECOWAS) consists of fifteen countries including Benin, Burkina Faso, Cape Verde, Cote D'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Covering about 6.1 million km², ECOWAS has an estimated population of 260 million people.

Geographic position of ECOWAS



In terms of organization, ECOWAS is made up of various institutions such as the Conference of Heads of State and Government, the Council of Ministers, the Community Parliament, the Community Court of Justice and the ECOWAS Commission. There are also several specialized institutions and agencies including ERERA dealing with specific sectors.

The Headquarters of the Economic Community of West African States is located in Abuja, Nigeria.

In line with the regional self-sufficiency policy of May 1982, ECOWAS Heads of States met in December 1999 to adopt a decision to establish the West African Power Pool (WAPP). In July 2006, the General Secretariat of WAPP was set up as a specialized agency with responsibility for the implementation of priority projects identified for the development of power pools.

In January 2008, the Conference of Heads of State and Government established the ECOWAS Regional Electricity Regulatory Authority (ERERA) to regulate cross-border electricity connections and trade, and to provide adequate support to national regulators of the electricity sector of member countries. This is to ensure better governance through support for free trade and advocacy for greater stakeholder compliance with agreements and sector requirements. It is also targeted at boosting stakeholder confidence, thereby fostering private sector participation.

In furtherance of its purpose, ERERA received a grant from the Agence Française de Développement (AFD) and European Infrastructure Trust Fund (ITF). ERERA intends to use part of these funds to finance consultancy services for some regulatory actions relating to the organization and development of the regional electricity market.

The current terms of reference seek to define the role of the Consultant to be recruited to assist ERERA in launching its regulatory activities and the monitoring of the implementation of these activities.

II. BACKGROUND

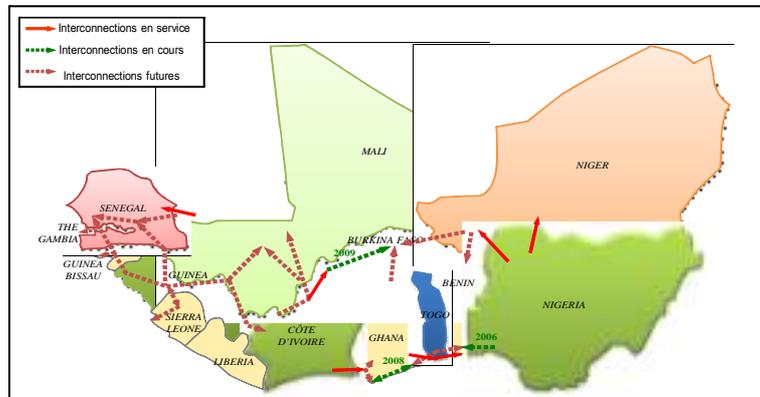
The regional electricity market

The generating capacity of most countries in West Africa is grossly inadequate to meet domestic demands. Electricity demand in the region is also estimated to increase by 5% every year. Generally speaking, ECOWAS countries have limited low-cost energy resources. There is however a lot of potential resources for generation, especially in the coastal belt: natural gas in Nigeria and Cote d'Ivoire, and hydropower in Guinea, Ghana, Nigeria and Cote d'Ivoire. Achieving greater power capacity for the region will largely entail increased production at catchment areas, and stepped up transmission to areas up north. Consequently, ECOWAS member countries resolved to interconnect their power systems as a way of pooling and sharing the region's energy resources. This will eventually translate into a regional power pool for West Africa.

Currently, there exist some interconnections among different ECOWAS countries which can be classified into 3 sub groups. These are:

- **Burkina Faso - Cote d'Ivoire – Ghana – Togo – Benin – Nigeria:** This subgroup comprises three power subsystems managed by different companies (SONABEL, CIE, VRA, CEB, PHCN) which have entered into bilateral agreements, and a wheeling agreement for effective exchanges between CIE and CEB ;
- **Nigeria-Niger :** This is a firm export agreement (from Nigeria to Niger);
- **Senegal River Development Organization (OMVS):** operates a common power system (hydro-power dam and transmission line) which links the three member countries (Mali, Mauritania, and Senegal) and distributes the output from the hydropower plant.

Other member countries of ECOWAS have stand-alone systems. Over the period of 2012-2015, it is expected that the transmission system will expand and improve with the emergence of new domestic markets and the opening of the regional market. For the period covering 2016-2020, the regional market is expected to see a gradual introduction of competition which will culminate in liberalization beyond 2020.



Regional Regulation Development

ERERA intends to develop a unified regional energy market which is dynamic, sustainable, profitable and responsive to significant socio-economic development.

The missions assigned to ERERA revolve mainly around the following objectives:

- Regulation of cross-border electricity connections and trading among ECOWAS member states
- Establishment of clear and transparent tariff setting methodology for regional power trading
- Facilitating the setting up of regulatory and economic environment for the development of the regional market, and preparing directives to (i) in the short term, facilitate existing PPA, (ii) in the medium term, enable the implementation of regional generation and transmission projects and (iii) on the long term, enable the setting up of a regional market.
- Technical regulation of the regional power pool and monitoring of regional market operations
- Assisting the ECOWAS Commission in defining the strategy for the regional energy policy
- Establishing effective dispute resolution methods among regional market participants
- Assisting national regulatory bodies in ECOWAS on capacity building and technical issues upon request

III. OBJECTIVES OF THE ASSIGNMENT

A. LOT 1 :

DEVELOPMENT OF A FIVE-YEAR STRATEGIC PLAN 2013-2017

AND

DEVELOPMENT OF A REGIONAL PLAN FOR CAPACITY BUILDING

1. DEVELOPMENT OF A FIVE-YEAR STRATEGIC PLAN

1.1 RATIONALE

ERERA moved to its headquarters upon the assumption of office of its Chairman in April 2009. The Regulatory Council was put in place in January 2011, with the assumption of office by the two members of the Council.

The establishment of ERERA has not been without challenges that typically beset the establishment of any new entity.

Thus, before the finalization of the recruitment process of the professional staff, the Regulatory Council requires the engagement of a consultant to *develop a five-year strategic plan (2013-2017) to facilitate the planning and implementation of the short and medium term goals of ERERA.*

1.2 SCOPE OF WORK

The scope of work includes:

- Review all enabling laws of ERERA, the ECOWAS Energy Protocol, the West African Power Pool (WAPP) Act, and other ECOWAS Acts, decisions or policies relating to the power sector within the ECOWAS region;
- Identify and prioritize the objectives and functions of ERERA;
- Conduct a sectoral analysis of the regional energy market, especially the activities of the national regulatory bodies and utilities in the ECOWAS region, based on the existing reports of ERERA;
- Conduct a comparative study of other existing regional markets, based on the existing reports of ERERA;
- Formulate a Vision and Mission Statement, a Motto, and guiding values for ERERA;
- Develop an actionable five-year strategic plan with targets for each year;
- Develop the associated implementation and monitoring plan including templates for annual evaluations/appraisals, and performance indicators;
- Develop a Collaboration Plan to ensure that the national regulatory bodies and utilities, and all the stakeholders co-operate with ERERA;
- Develop a budget for the actualization of the Plan, taking into account the expected resources of ERERA;
- Conduct a SWOT analysis of ERERA and develop an action plan to convert its weaknesses to strengths, and mitigate the risks of identified threats;
- Conduct an external analysis of political, economic, social, technological, legal, and environmental factors that could have an effect on the implementation;
- Conduct an analysis of stakeholders capable of influencing the success of the Plan;
- Analyse the human capital requirements, and identify the gaps within the existing personnel, and proposing capacity building activities;
- Develop detailed workplans for the departments of ERERA for the short, medium and long-term;
- Develop Reporting templates to be submitted periodically for the evaluation of the implementation and monitoring plan; and
- Consider any need for amendments to the enabling law of ERERA, and make necessary suggestions.

1.3 EXPECTED OUTCOMES

The expected outcomes for this mission include:

- A 5-year Strategic Plan for 2013-2017 which addresses all tasks stated in the Scope of Work;
- A report on all the studies and research conducted; and
- Brief presentations on the Studies, and the Plan.

1.4 PERFORMING THE ASSIGNMENT

The nature of the assignment and the results expected require a combination of long-term expertise and deployment of part-time or short term mission experts to ERERA's Office. The team which will be established by the Consultant will have to ensure continuity in the service.

For that purpose, a member of this team will be resident in Accra (Ghana) at ERERA's headquarters, during the mission. The Consultant will provide the necessary support to ensure that the resident expert effectively fulfils his mandate.

The Consultant will may be required to carry out trips within West Africa, in the Member States of ECOWAS, to gather information and conduct studies required by the consultancy.

1.5 TIME FRAME

The consultancy assignment shall be concluded within a period of four (4) staff/months and all outputs/deliverables shall be prepared and submitted for review and approval within the said period.

1.6 REPORTING

a. General

The Consultant shall prepare and submit to ERERA the reports listed below in English and French. Electronic copies of the reports shall also be submitted. The reporting schedule as of the date of mobilization is as follows:

Table 1: Reporting Schedule

	Description	Number of copies	Target Date in days
i)	Inception Report	3 English + 5 French	D+10
ii)	Monthly Activity Report	3 English + 5 French	D+40
iii)	Monthly Activity Report	3 English + 5 French	D+70
iv)	Draft Final report	3 English + 5 French	D+100
v)	Final Report and Strategic Plan	3 English + 5 French	D+130

b. Inception Report

The Inception report to be prepared after the working visit to ERERA Headquarters (Accra) will outline the organization and planning process as well as key initial findings.

The report will define the scope and schedule of the assignment and provide an outline of the support programme including a comprehensive programme of action, and a work plan, bearing in mind the timeline of the Reporting Schedule described above.

Also captured in the report will be all initial challenges or inconsistencies in the volume of work, and potential issues that may affect progress. Where progress will be affected, corrective measure should be recommended for immediate action. The report shall include coordination and cooperation with various entities involved.

c. Monthly Activity Reports

A progress report on the activities effectively carried out compared to the planning process shall be done by the end of each month. This report will present in particular the outstanding activities and comments regarding the implementation of the activities as well as possible requests for modifications of the initial planning, in the event of exceptional circumstances. These proposals will have to be discussed and approved by ERERA.

d. Draft final report

The consultant will submit the draft final report to ERERA for review and comments. The report shall be submitted three (3) months after the commencement of the assignment.

e. Final Report and strategic plan

At the end of the assignment, a draft final report shall be prepared to include the full results of the work carried out by the consultants for the assignment. This report, which shall be submitted for ERERA comments, shall include the proposed Strategic Plan accompanied by other deliverables. The final copy of the Report and the Plan shall be submitted after incorporating relevant comments by ERERA.

1.7 SCHEDULE OF MEETINGS

The consultant shall prepare and organize in consultation with ERERA the following schedule of meetings:

a. The kick-off meeting

This two-day's meeting shall mark the formal start of work by the consultant and the consultant shall present the programme of work, resources and criteria for planning. This meeting shall be held at ERERA's office in Accra, Ghana. The Inception Report shall be due at this meeting, and the Consultant shall present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar, Senegal.

b. Final meeting

A Consultative Committee meeting will be organized by ERERA for the submission of the Final Report and the Strategic Plan. The first day shall be for the making of a presentation on the activities involved in the consultancy, as well as the Report and the Plan. The second, third and fourth day shall be for the discussion of the draft Final Report and draft Strategic Plan for ERERA comments. The final day shall be for the submission of the Final Report and the Strategic Plan after the incorporation of relevant ERERA comments.

1.8 EXPERTS QUALIFICATION

The potential consulting firm must have experts who possess the following:

- Post-graduate degree in Business Administration; Management or any other related field;
- 8 years or more experience in senior advisory/consultancy positions providing strategy advice to large corporations or public sector entities;
- Understanding of organizational issues and experience in running strategic planning processes, project and programme management;
- Experience of advising and supporting management teams of organizations on strategic planning, performance monitoring, organizational consulting, change management, performance improvement;
- Excellent project management skills;
- Excellent facilitation and interpersonal skills;



- Fluency in English or French (fluency in both is an added advantage);
- Proficiency in computer applications, including excel and PowerPoint; and
- Availability to travel around the ECOWAS member states.

The Consultant will be required to be in Accra for submissions of Reports and all the meetings, and whenever the need arises.

The selection of the Consultant will follow the consultancy procurement procedures of AFD and ECOWAS.

2. DEVELOPMENT OF A REGIONAL PLAN FOR CAPACITY BUILDING

2.1 NEED FOR CAPACITY BUILDING

Majority of the ECOWAS Countries have or are in the process of restructuring their electricity markets. Over the last decade electricity sector in these countries have been subject to restructuring to introduce private capital and increase competition. This increase in private participation in the electricity sector has been accompanied by a change in thinking on how utilities should be organised and regulated and this led to the creation of regulatory bodies with the main aim of regulating the activities of the sector.

With the establishment and operationalization of WAPP and ERERA and the major restructuring of the power sector in the ECOWAS countries, the importance of creating a pool of resource persons on economic regulation and related subjects cannot be overemphasized. This therefore gives rise to the need for the staff of these organizations to be given the appropriate capacity building to enable them carry out their duties and responsibilities effectively and optimally.

It is pertinent to note that Capacity Building is much more than training and includes human resource development; this involves equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively.

Based on this, ERERA deems it necessary to engage a consultant to carry out needs assessment for technical and professional capacity building to ERERA, WAPP and other national electricity regulators to enable them fully achieve their goals, targets and general objectives for which they were established.

2.2 OBJECTIVE

The main objective of the assignment is to identify and assess the training gaps/needs of the staff of ERERA, WAPP, relevant Ministries and other national regulatory bodies on all aspects of electricity sector regulation; this includes the technical, administrative, regulatory as well as the commercial aspect of the electricity sector.

2.3 SCOPE OF WORK

- Review of documents** – All relevant training documents shall be reviewed and this includes various training reports of the regulatory agencies, ministries, utilities, ERERA and WAPP.
- Review of capacity building exercises by other regional regulator-** The capacity building exercises carried out by other regional electricity regulator such as Regional Electricity Regulators Association (RERA, South Africa) and Energy Regulators Regional Association (ERRA) shall be reviewed to determine if and how this could be applied to ERERA.
- Assessment of Training requirements** - Assessment of the training requirements for the staff of ERERA, WAPP, relevant utilities and the national electricity regulatory authorities shall also be carried out. It shall be done on the basis of questionnaires or any other suitable survey method approved by

ERERA. These questionnaires shall be sent to regulators and utilities for inputs. The areas to be assessed shall include but not limited to the following:

1. Regulatory governance
 2. Electricity sector reform
 3. Tariff methodology (Tariff Setting and Rate Design issues)
 4. Aggregate technical, commercial and collection losses (ATC&C),
 5. Trading Arrangements and financial settlement systems
 6. Electricity Market Rules
 7. Licensing and Legal Aspects of Power Sector Regulation: Experiences and Enforcement Issues
 8. Dispute Resolution
 9. Demand Side Management and energy efficiency
 10. Open Access & Role of Load Dispatch Centre
 11. **Electricity Markets; Network Issues**
 12. **Wholesale and Retail Markets**
 13. **Economics of Competitive Markets**
 14. Consumer Protection
 15. Electricity Market Monitoring
 16. Renewable energy
 17. Financial modeling for the power sector
 18. Power Sector Project Finance
- c. **Regional Scheme for capacity building** - Development of a regional scheme for capacity building (Ministries and national regulators).
- d. **Recommendations for In-house capacity building exercise** – Recommendations for in-house capacity building exercise shall also be made by the consultants.
- e. **Training evaluation form** - A standard training evaluation template shall be developed by the consultant and approved by ERERA. This template shall be designed to be completed by all participants at the end of each training session.
- f. **Training reporting template** - An elaborate reporting template shall be developed for the purpose of the reporting obligations to ERERA by the consultant carrying out the training.

2.4 EXPECTED OUTCOME

1. Identification of training gaps for the staff of ERERA, WAPP, Ministries and other regulatory bodies.
2. Trainings for the staff of ERERA, WAPP, Ministries and other regulatory bodies

2.5 TIMEFRAME

The consultancy assignment shall be concluded within a period of three (03) staff/months and all outputs/deliverables shall be prepared and submitted for review and approval within the said period.

2.6 REPORTING

The Consultant shall prepare and submit to ERERA the reports listed below in English and French. Electronic copies of the reports shall also be submitted. The reporting schedule as of the date of mobilization is as follows:

Table 1: Reporting Schedule

Description	Number of copies	Target date
Regulatory Studies – Inception Report	28	December 2012

i)	Inception Report	3 English + 5 French	D+ 0.5 month
ii)	Report on training needs	3 English + 5 French	D+ 2 months
iii)	Draft Final report	3 English + 5 French	D+ 2.5 months
iii)	Final Report	3 English + 5 French	D+ 3 months

2.7 DELIVERABLES

a. Deliverable 1 – Inception report

The report would consist of the organization and planning process as well as key initial findings.

The report will also review the scope and schedule of the assignment

Also to be included in the report will be all initial challenges or inconsistencies in the volume of work, and potential issues that may affect progress. Where progress is affected as provided in the agreement, corrective measure should be recommended for immediate action. The report shall include coordination and cooperation with various entities involved.

b. Deliverable 2 – Report on training needs

The consultant will be expected to carry out survey on the capacity needs and gaps for ERERA, WAPP, relevant ministries and other regulatory agencies. This could be done through a questionnaire or any other method proposed by the consultant and approved by ERERA.

If the use of a questionnaire is chosen, the consultant will submit a draft copy of the questionnaire to ERERA for approval.

The consultant will compile the result of the survey and generate a report on training needs for each organization. A report will be prepared by the consultants forwarding the results of their findings with appropriate recommendations.

An elaborate report on the training needs based on the results of the survey shall be submitted to ERERA within ten (10) weeks of the commencement of the assignment.

c. Deliverable 3 - Reporting Templates

A reporting template shall be developed. This template is for the reporting obligations to ERERA by the firm to conduct the trainings. Another reporting template to be used to evaluate the trainings from the participant's point of view will also be developed.

Both reporting templates shall be forwarded to ERERA along with the report on training needs.

d. Deliverable 4- Development of a regional scheme and timetable for capacity building

The Consultants will develop a tentative time table and schedule for the various trainings to be carried out. A comprehensive training timetable stating the proposed training courses, dates, number of participants and all other important details required to carry out the training will form part of the final report.

e. Deliverable 5 –Draft Final Report

The consultant will submit the draft final report to ERERA for review and comments. The report shall be submitted twelve (12) weeks after the commencement of the assignment.

f. Deliverable 6 – Final Report

A final report will be submitted after the conclusion of the whole assignment. This report will summarize activities over the course of the assignment. Observations and recommended way forward will also be included in the report.

This report shall be submitted fourteen (14) weeks after the commencement of the assignment.

2.8 SCHEDULE OF MEETINGS

The consultant shall prepare and organize in consultation with ERERA the following schedule of meetings:

a. The kick-off meeting

The Consultants will meet for a day or two with ERERA and other relevant bodies to discuss the inception report and the anticipated challenges. The Inception Report is expected to be submitted within two weeks of the commencement of the assignment and the Consultant shall present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar, Senegal.

b. Final Meeting

A two-day meeting will be organized at ERERA's headquarters for the submission of the Final Report and the Capacity Building Plan.

2.9 QUALIFICATION & EXPERIENCE

The consultant should have a team of legal, engineering, financial and economic expertise. The team should have proven experience in the following field:

- Power Sector reform
- Competitive electricity market
- Electricity Tariff and Rate Design
- Regional Electricity Market regulation
- Knowledge of the electricity sector in Africa particularly in the area of regulation.

The proposed key team should have the following qualifications and experience:

- Proven experience as a senior expert in the proposed field (at least 10 year experience);
- Substantial in-depth experience in diagnosis, design, development and implementation of power sector reform in developing countries;
- At least seven years experience in training electricity regulators and other relevant stakeholders on electricity market issues;
- Experience in regional electricity market regulation
- Fluency in English or French (fluency in both is an added advantage);

A team leader should be nominated, in addition to the above qualification and experience; the team leader should have substantial experience in:

- Initiating project development, implementation, monitoring and evaluation.

The selection of the Consultant will follow the consultancy procurement procedures of AFD and ECOWAS.

B. LOT 2 :

DEVELOPMENT OF ACCESS RULES TO THE REGIONAL GRID BY ELIGIBLE CUSTOMERS

DEVELOPMENT OF TARIFF METHODOLOGY FOR REGIONAL TRANSMISSION COST & TARIFF

DEVELOPMENT OF BEST CONTRACTUAL PRACTICES

AND

REGIONAL BENCHMARKING

3. DEVELOPMENT OF ACCESS RULES TO THE REGIONAL GRID BY ELIGIBLE CUSTOMERS

From the perspective of regional market development of electrical energy that will lead to higher electricity transactions, it is important to consider the issue of Third party access to networks for a number of eligible customers in accordance with Article 6 of the Protocol of the ECOWAS Energy which states "The Contracting Parties have agreed to provide open access, without discrimination, to sources of production and transportation facilities that are located in their respective areas to other Contracting Parties and any other investor. " Some ECOWAS countries, including Senegal and Mali have enshrined the principle of third party access to their electricity law. The development office of regional regulation (RRDO) conducted a control action on the subject for both countries in 2007 above in phase 1 of the assistance of AFD.

The objective of ERERA is to formalize a consensus on criteria and regional rules accepted by all to access to the interconnected regional. These rules will eventually be an integral part of the Code of the Regional Network.

3.1 OBJECTIVES OF THE STUDY

The study's objectives are:

- i) Prepare for the ECOWAS member states a national strategy paper for opening of their respective electricity sectors taking into account regional perspectives;
- ii) An action plan to prepare for the free access of eligible customers to the interconnected regional network
- iii) a framework for the opening national electricity markets as part of the greater cub-regional market

As part of developing the country strategy note opening of the electricity sector, the Consultant will:

- i) Description of institutional frameworks governing the electricity of member states especially in relation to market reform and liberalisation and tariff setting;
- ii) Analyse the capacity of current potential suppliers especially regarding their ability to ensure sustained supply and market participation.

- iii) Study the anticipated restructuring of national and sub-regional producers by 2015 under the assumption that from that date there would be, in the short-term, a regional electricity market;
- iv) Develop a profile of eligible customers based on key criteria (growth in demand, ability to meet demand, number of nodal delivery points etc..) and their demand forecasts;
- v) Make recommendations for open access and eligibility rules and standards in ECOWAS member states where the legal framework is inadequate.
- vi) Recommend optimal reform and restricting scenarios of eligible participants.

Particular attention will be paid to assessing the experience of Ghana and Nigeria.

Regarding the inventory of actions to prepare for open access for eligible customers to the regional interconnected network, the Consultant will pay particular attention to:

- i) the legal and regulatory frameworks;
- ii) the policies of the electricity sector;
- iii) the key stakeholders;
- iv) activities including the evaluation of the state of ring fencing of operations and separation of account
- v) the impact on the conduct of systems on the choice of suppliers by eligible customers;
- vi) Transmission access and Grid Codes;
- vii) Electricity prices and tariff setting methodologies to be applied;
- viii) Issues with metering

Regarding proposals for open access framework, the consultant will examine competition between incumbents and other national or regional suppliers for eligible customers. Thus, the consultant would be required to investigate:

- i) Framework for a liberalised and competitive generation sector for the supply to eligible customers before the creation of a wholesale electricity market at both national and regional level;
- ii) The conditions under which the generation from incumbents will be able to compete with other suppliers and to meet the demand of users with similar consumption characteristics in a non-discriminatory way
- iii) The role of the regulator (s);
- iv) The impact of open access on the current status of the transport network, etc.;
- v) The impact of open access on the financial viability of the electricity sector as a whole and of operators at national and regional levels.

Whilst this list of activities to be considered is not exhaustive, the consultant will identify as much as possible all other actions required for open access to the interconnected network and recommend all necessary studies for the Open Access Framework as part of a national or regional market.

3.2 HUMAN RESOURCES

The Consultant will establish a team with the skills and experience necessary to complete the mission. The team will include at least one electrical engineer who has 15 years experience in the field of transmission interconnections and energy exchanges, an economist who has 5 years experience in the regulation of electricity utilities.

The experts should be bilingual in French and English.

3.3 TERMS OF EXECUTION

The Consultant may be required to perform many missions in West Africa, in the member states of ECOWAS to attend workshops to validate the study reports, and to ensure, with ERERA, coordination of project. For this purpose it is expected that the Consultant provides solutions to promote dialogue and exchange of information between all stakeholders.

3.4 REPORTS

The Consultant shall submit:

- An inception report
- An interim strategy note for the different Member States;
- An interim report with an inventory of actions to prepare the free network access for eligible customers;
- A draft report presenting the proposed organization of the opening part of a national market or sub-regional.

The inception report will describe, after the working visit to the headquarters of ERERA (Accra), the organization and work plan of the Consultant, and all important initial observations.

It will indicate particular ways of organizing the study.

The report will describe all the difficulties and contradictions in the initial volume of work and any problems that may affect the progress of work. If these findings extend in any manner whatsoever progression as agreed in the Agreement, means immediate correction should be proposed. The report will describe the activities of coordination and cooperation with various entities involved.

The Consultant shall present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar, Senegal.

The country strategy note and draft reports, submitted to ERERA, will be presented by the Consultant and discussed at the meeting of the Consultative Committees.

A final strategy note and the final reports will be submitted to the Regulatory Board after the meeting of the Consultative Committees.

The final documents will consider all recommendations from the meetings of advisory committees.

3.5 PERIOD OF ACHIEVEMENT

The Consultant shall prepare and submit reports to ERERA listed below in the format of ERERA. The program for the submission of reports, from the date of mobilization is shown below:

Table 1: Table for submission of reports

Description	Number of copies	Date
i) Inception Report	3 English + 3 French	D + 10 days
ii) Interim Strategy Note	3 English + 3 French	D + 1 month
ii) Interim Report on the inventory	3 English + 3 French	D + 2 months
iii) Interim Report on the organization	3 English + 3 French	D + 3 months
iv) Note and Final Reports	3 English + 3 French	D + 4 months
Regulatory Studies – Inception Report	33	December 2012

An electronic version of the various documents will be given to ERERA.

4. DEVELOPMENT OF TARIFF METHODOLOGY FOR REGIONAL TRANSMISSION COST & TARIFF

4.1 CROSS BORDER ELECTRICITY TRADING AND TRANSMISSION TARIFF

With the regulation of cross border electricity trading comes the need for the development of a methodology for transmission cost and tariff within the region. In the context of liberalisation of the electricity markets, the need for agreed protocols for electricity trades between the various national systems, with different tariff regimes pose a special challenge. System operators need to be able to allocate cost for the use of the transmission networks based on how much a given trade uses the network.

Transmission Companies will have to be paid for wheeling power from one point to another. Generally, the cost of transmission consists of four main elements:

- (i) transmission losses;
- (ii) operation and maintenance of the network;
- (iii) return on investment and depreciation of the capital equipment; and
- (iv) the cost of resolving transmission constraints (congestion).

The methodology for Transmission cost and tariff must provide incentives for efficient use of the existing system as well as for future development of the network, depending on the evolving needs of the market. At the same time, the tariff system must be practical enough for real-time application, while being transparent enough to be accepted by all stakeholders.

Different countries place different emphasis on each of these requirements making it difficult to identify two countries in the world with identical transmission pricing regimes. This therefore strengthens the need to harmonise the transmission pricing regimes of the ECOWAS countries in order to promote and sustain cross border electricity trading.

The main problem will be ascertaining the tariff for the use of transmission network in the region. Where two adjacent systems share a common transmission pricing methodology, it would be easy to see them as a common system and be able to draft a methodology that can easily be used to calculate the relevant tariffs. This could be done for a group of system operators using spot prices. On the contrary, when the systems have chosen to implement very different transmission prices, the calculation of the tariff will require a well thought out methodology for cross-border trading.

4.2 OBJECTIVE OF THE ASSIGNMENT

The objective of the assignment is to develop a standard methodology for calculating the regional transmission tariff within the ECOWAS region, and establish harmonized rules for access cost calculations to networks, transit and ancillary services, as well as rules for transmission cost sharing among producers and consumers.

4.3 SCOPE

The Consultants are required to:

- a. Review the transmission tariff study previously undertaken by WAPP, the approved tariff methodologies and orders adopted by all the ECOWAS countries, key industry agreements being entered into in the region, existing electricity market rules and trading arrangements.
- b. Review and analyse international experiences of other regional regulators in determining cross-border transmission tariffs.
- c. Develop a standard transmission cost allocation strategy and tariff methodology for determining the transmission tariff for cross border electricity trading.
- d. Compare the methodologies adopted by ECOWAS countries as it relates to transmission cost, and suggest a methodology acceptable to all member countries, with the rationale for choosing the proposed methodology.
- e. Develop allowed and non-allowed costs, as well as indexation rules.
- f. Develop rules that will ensure open access to the grid for all prospective users, and facilitate non-discriminatory transmission system planning.
- g. Design a methodology that encourages utilities and transmission providers to conduct joint planning with each other and customers.
- h. .
- i. Design a methodology that is forward looking and holistic to ensure recovery of the cost of investment of the transmission assets over a period of time and associated costs such as ancillary services charges
- j. Develop a methodology that promotes the efficient day-to-day operation of the bulk power market, provides locational advantages for investment in generation, provides incentives for investments in the transmission system, compensates owners of existing transmission assets, simple, transparent, and implementable
- k. Design a template for the assessment and payment of regulatory levies to ERERA, bearing in mind the sustainability of ERERA as well as the operators.
- l. Design a Training Plan for the staff of ERERA, WAPP, national utilities, and the national regulatory bodies on the use of the methodology.
- m. Propose a schedule for periodic review of transmission tariff by ERERA; and
- n. Develop an Implementation Plan for the Tariff Methodology.

4.4 EXPECTED OUTCOMES

The expected outcomes for this mission include:

- a. A Tariff Methodology which addresses all tasks stated in the Scope of Work;
- b. A proposal on regulatory levies payable to ERERA.
- c. A report on all the studies and research conducted; and
- d. Brief presentations on the Studies, and the Tariff Methodology.

4.5 TIME FRAME

The consultancy assignment shall be concluded within a period of five (5) staff/months and all outputs/deliverables shall be prepared and submitted for review and approval within the said period.

4.6 REPORTING

a. General

The Consultant shall prepare and submit to ERERA the reports listed below in English and French. Electronic copies of the reports shall also be submitted. The reporting schedule as of the date of mobilization is as follows:

Table 1: Reporting Schedule

	Description	Number of copies	Target Date
i)	Inception Report	3 English + 3 French	D+2 weeks
ii)	Monthly Reports	3English + 3 French	D+1 month and D+ 2 months
iii)	Draft Assessment Report	3 English + 3 French	D+3 months
iv)	Final Assessment Report	3 English + 3 French	D+4 months
v)	Final Report	3 English + 3 French	D+5 months

b. Inception Report

The report shall consist of the organization and planning process, the key initial findings, as well as a review of the scope and schedule of the assignment

Also to be included in the report will be all initial challenges or inconsistencies in the volume of work, and potential issues that may affect progress. Where progress is affected as provided in the agreement, corrective measure should be recommended for immediate action. The report shall include coordination and cooperation with various entities involved.

c. Draft Assessment Report

The consultant will submit the initial draft methodology. The consultant shall make a presentation of this initial draft methodology to ERERA, after which comments and observations of ERERA will be included.

It is expected to be discussed at a one-day workshop where the Consultants will give an in-depth analysis of the proposed methodology, insight into other available methodologies, and the rationale for proposing the developed methodology.

A draft template on assessment of regulatory levies payable to ERERA will also be submitted.

The Workshop is to be organized by ERERA in Accra, and all relevant stakeholders would be expected to attend. The consultant will be responsible for delivering the presentations to the participants who shall include representatives of WAPP, electricity regulatory bodies, and utilities.

d. Final Assessment Report

Based on the discussions and comments received in the workshop and ERERA, the consultant will finalize the assessment report, and present it to ERERA.

e. Final Report and Final Draft of the Methodology

Following the review of all comments and observations from stakeholders, and the incorporation of all relevant comments and observations, the Consultant shall submit the final report and the methodology to ERERA. The Final Report shall include the Training Plan to be used for training the staff of ERERA, WAPP and other regulatory agencies on the proposed methodology.

4.7 Schedule of Meetings, Workshops and Trainings

The consultant shall prepare and organize in consultation with ERERA the following schedule of meetings:

a. The kick-off meeting

This two-day's meeting shall mark the formal start of work by the consultant and the consultant shall present the programme of work, resources and criteria for planning. This meeting shall be held at ERERA's office in Accra, Ghana. The Inception Report shall be due at this meeting and also the Consultant shall present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar, Senegal.

b. Monthly meetings

A one (1) day meeting shall be held each month to discuss the progress made by the consultant on the assignment.

A one-day Stakeholder's Workshop shall also be held to discuss and review the proposed methodology and solicit comments and observations from the participants.

c. Final meeting

A three-day meeting will be organized at ERERA's headquarters for the submission of the Final Report and the final draft of the Methodology. The first day shall be for the making of a presentation on the activities involved in the consultancy, as well as the Report and the Methodology. The second day shall be for the discussion of the Final Report and draft Methodology for ERERA comments. The final day shall be for the submission of the Final Report and the Methodology after the incorporation of relevant ERERA comments.

d. Training Programme

Two-day Training on the Methodology and its implementation to staff of ERERA, WAPP, regulatory bodies and utilities shall be conducted.

4.8 EXPERT QUALIFICATION

The potential consulting firm must have experts who possess the following:

- Financial, Legal, Engineering, and Economic expertise.
- The team should have a proven experience in the following areas:
 - Competitive electricity market
 - Electricity Tariff and Rate Design
 - Experience in developing a methodology for other regions on regional transmission tariff
 - Experience in the determination of generation and ancillary services prices.
 - Good knowledge of the electricity sector in Africa particularly in the area of regulation.
 - The design of dispute resolution procedures for wholesale electricity markets, with particular reference to the role of a regulator in these.

The proposed key team should have the following qualifications and experience:

- Degrees in law, economics. Engineering.
- Proven experience as a senior expert in the proposed field (at least 10 year experience)
- Substantial in-depth experience in diagnosis, design, development and implementation of power sector reform in developing countries.
- Substantial in-depth experience in regulation of power sector, public and private participation, and market environment as well as experience in power market pricing including ancillary service pricing

- Fluency in English or French (fluency in both is an added advantage);
- Excellent facilitation and interpersonal skills;
- Proficiency in computer applications, including excel and PowerPoint; and
- Availability to travel around the ECOWAS member states.

A team leader should be nominated, in addition to the above qualification and experience; the team leader should have substantial experience in:

- Initiating project development, management, implementation, monitoring and evaluation
- Working with a wide range of stakeholders including government, ODA providers and the private sector.

The selection of the Consultant will follow the consultancy procurement procedures of AFD and ECOWAS.

5. DEVELOPMENT OF BEST CONTRACTUAL PRACTICES

5.1 RATIONALE

ERERA moved to its headquarters upon the assumption of office of its President in April 2009. The Regulatory Council was put in place in January 2011, with the assumption of office by the two members of the Council.

The establishment of ERERA has not been without challenges that typically beset the establishment of any new entity.

Thus, before the finalization of the recruitment process of the professional staff, the Regulatory Council requires the engagement of a consultant to *conduct a study for the development of contractual best practices in order to harmonize existing bilateral contracts which govern electricity cross-border trading of electricity, and the preparation of a guideline for the harmonization of these key contracts.*

5.2 SCOPE OF WORK

The scope of work includes:

- Review all enabling laws of ERERA, the ECOWAS Energy Protocol, the West African Power Pool (WAPP) Act, and other ECOWAS Acts, decisions or policies relating to the power sector within the ECOWAS region;
- Conduct a sectoral analysis of the regional energy market, especially the activities of the national regulatory bodies and utilities in the ECOWAS region;
- Conduct a comparative study of other existing regional markets, and make an inventory of the best contractual practices to be shared;
- Consider any need for amendments to the enabling law of the ERERA, and make necessary suggestions;
- Conduct a study to identify all existing bilateral contracts which govern electricity cross-border exchanges and their key Terms and Conditions, particularly the contracts between SOGEM and SENELEC, SOGEM and EDM SA, SOGEM and SOMELEC, CIE and SONABEL, VRA and CIE, VRA and CEB, CIE and CEB, VRA and SONABEL, GRIDCO and SONABEL, GRIDCO and CEB; PHCN and CEB, PHCN and NIGELEC.

- Advise ERERA on the development of contractual best practices in order to convert the bilateral contracts into wholesale contracts;
- Identify the critical issues about power exchange agreement, and prepare a guideline for the harmonization of key contracts on cross-border electricity exchanges;
- Conduct research for the drafting of reference legal framework for the implementation of wholesale energy contracts or other contractual arrangements, including the Use of Network Agreements, Power Purchase Agreements, and Concession Agreements;
- Prepare harmonized Model Contracts for the ECOWAS region; and
- Conduct workshop(s) involving all stakeholders in the regional market to train and build consensus.

5.3 EXPECTED OUTCOMES

The expected outcomes for this mission include:

- A report on all the studies and research conducted;
- Guidelines for the drafting of key contracts on cross-border electricity exchanges;
- Standard templates of agreements used for cross-border trading of electricity, including Power Purchase Agreements (PPAs), Transmission Use of System (TUoS) Agreements;
- Draft Plan for the formalization of a consensus on an adaptation strategy of existing contracts; and
- Brief presentations on the Studies, the templates, and the Plan.

5.4 PERFORMING THE ASSIGNMENT

The nature of the assignment and the results expected require a combination of long-term expertise and deployment of part-time or short term mission experts to ERERA's Office. The team which will be established by the Consultant will have to ensure continuity in the service.

The Consultant may be expected to carry out a few trips within West Africa, in the Member States of ECOWAS, to gather information and conduct studies required by the consultancy.

The consultancy assignment shall be concluded within a period of four (4) staff/months and all outputs/deliverables shall be prepared and submitted for review and approval within the said period.

5.5 REPORTING

a. General

The Consultant shall prepare and submit to ERERA the reports listed below in English and French. Electronic copies of the reports shall also be submitted. The reporting schedule as of the date of mobilization is as follows:

Table 1: Reporting Schedule

	Description	Number of copies	Target Date in days
i)	Inception Report	3 English + 5 French	D+10
ii)	Monthly Activity Reports	3 English + 5 French	D+40
iii)	Monthly Activity Reports	3 English + 5 French	D+70
iv)	Draft Final report	3 English + 5 French	D+100
v)	Final Report, Guideline, Templates and Plan	3 English + 5 French	D+130

b. Inception Report

The Inception report to be prepared after the working visit to ERERA Headquarters (Accra) will outline the organization and planning process as well as key initial findings.

The report will define the scope and schedule of the assignment and provide an outline of the support programme including a comprehensive programme of action, and a workplan, bearing in mind the timeline of the Reporting Schedule described above.

Also captured in the report will be all initial challenges or inconsistencies in the volume of work, and potential issues that may affect progress. Where progress will be affected, corrective measure should be recommended for immediate action. The report shall include coordination and cooperation with various entities involved.

c. Monthly Activity Reports (3)

A progress report on the activities effectively carried out compared to the planning process shall be done by the end of each month. This report will present in particular the outstanding activities and comments regarding the implementation of the activities as well as possible requests for modifications of the initial planning, in the event of exceptional circumstances. These proposals will have to be discussed and approved by ERERA.

d. Draft final report

The consultant will submit the draft final report to ERERA for review and comments. The report shall be submitted three (3) months after the commencement of the assignment.

e. Final Report, Guidelines, Plan and Templates

At the end of the assignment, a draft final report shall be prepared to include the full results of the work carried out by the consultants for the assignment. This Report, which shall be submitted for ERERA comments, shall include the Guidelines, Plan and Templates accompanied by other deliverables. The final copy of the Report shall be submitted after incorporating relevant comments by ERERA.

5.6 SCHEDULE OF MEETINGS

The consultant shall prepare and organize in consultation with ERERA the following schedule of meetings:

a. The kick-off meeting

This two-day meeting shall mark the formal start of work by the consultant and the consultant shall present the programme of work, resources and criteria for planning. This meeting shall be held at ERERA's office in Accra, Ghana. The Inception Report shall be due at this meeting and the Consultant shall also present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar, Senegal.

b. Workshop

A two days Stakeholder's Workshop to discuss and review the Guidelines, Templates, and Plan, and solicit comments and observations from the participants.

c. Final meeting

A five-day meeting will be organized at ERERA's headquarters for the submission of the Final Report, including the Guideline, Templates and Plan. The first day shall be for the making of a presentation on the activities of the consultancy, as well as the draft Report and other deliverables. The second, third and fourth day shall be for the discussion of the draft Final Report and deliverables for ERERA comments. The final day shall be for the submission of the Final Report and the deliverables after the incorporation of relevant ERERA comments

5.7 EXPERTS QUALIFICATION

The potential consulting firm must have experts who possess the following:

- Legal, engineering, financial and economic expertise;
- Proven experience as a senior expert in the proposed field (at least 10 year experience)
- Proven experience in the electricity market in Africa;
- Experience in the drafting of legal documents in the electricity sector;
- Knowledge and understanding of essential fiscal and non-fiscal terms in energy agreements;
- Substantial in-depth experience in diagnosis, design, development and implementation of power sector reform in developing countries, especially in the ECOWAS member states
- Substantial in-depth experience in regulation of power sector, public and private participation, and market environment;
- Excellent project management skills;
- Excellent facilitation and interpersonal skills;
- Fluency in English or French (fluency in both is an added advantage);
- Proficiency in computer applications, including excel and PowerPoint; and
- Availability to travel around the ECOWAS member states.

The Consultant will be required to be in Accra for submissions of Reports, all the meetings, and whenever the need arises.

The selection of the Consultant will follow the consultancy procurement procedures of AFD and ECOWAS.

6. REGIONAL BENCHMARKING

6.1 RATIONALE

Utilities regulation in the ECOWAS sub-region like in other regions of Africa is generally described as a novelty in the realms of public utilities governance. There are different experiences in each of the ECOWAS member states. The earliest electricity regulatory bodies were set up in the late 1990s and few countries such as Guinea Bissau and Sierra Leone are without electricity regulatory bodies.

The ECOWAS Electricity Regional Regulatory Authority (ERERA), which was established in 2008 moved to its headquarters upon the assumption of office of its Chairman in April 2009. The Regulatory Council was inaugurated in January 2011, with the assumption of office by the two other members of the Council.

Different countries in the sub-region have applied regulation in different forms. The nature of the institutions has been influenced by colonial heritage, size of the national economy and electricity market structure. Small countries like Cape Verde and The Gambia have opted for multi-sectoral regulatory bodies whilst in Senegal, Cote d'Ivoire and Nigeria the electricity regulatory bodies are single sector agencies. Even amongst multi-sectoral agencies the number of services regulated also varies thus affecting the in-house pool of expertise and capacity. This diversity in institutional setup has also led to different methodologies applied for specific regulatory activities such as tariff setting.

Political governance in many countries has led regulators to become risk adverse by learning from their mistakes and adapt different practices to local conditions to ensure sustainability of the regulatory process. Thus the level of political interference in the decision making process varies from country to country.

All this diversity on several fronts pose a challenge to ERERA as the Regional Regulator in identifying trends and regulatory best practices especially so as to ensure that countries learn from each other's experiences.

The physical network interconnection creates dependence - technically and financially - between the countries and the operators. The setting up of a database on the electric systems of the area and the dissemination of bench marks should contribute to the development of common standards and the knowledge of "good practices" among all actors. It will also help to adopt common sector policy objectives at the regional level.

It is in this vein that ERERA is seeking the services of a consulting firm to carry out a regional benchmarking exercise on current regulatory practice on the performance of utilities and national regulators using key indicators such as contractual rules used, financial and technical performances of the sector and operators, etc., or more targeted (technical efficiency, generation and transaction costs, effective implementation of regulation mechanisms etc). The Consultant could refer to the manual of AFUR on Key Performance Indicators.

6.2 SCOPE OF WORK

The Consultant should develop performance monitoring and benchmarking of the electricity in the ECOWAS region through. The study could be divided into two components:

4.1 *Component A – Regulatory Institutions*

- i) Provide a benchmark of Key Performance Indicators (KPI) of Regulatory performance in the various countries in ECOWAS and of best practices.
- ii) Identification of countries with strong similarities in legislative frameworks and comparison of how their mandates are executed.
- iii) Review of the different institutional set up of different regulatory bodies and how it affects their performance and effectiveness or regulatory productivity (value of money comparison)

- iv) Review/study competitive comparisons of different levels of un-bundling of state owned utilities and level of investment in the power sector in ECOWAS member states.
- v) An analysis of different tariff methodologies employed by different regulators.
- vi) Determine stakeholder consultation engagement patterns and identify best practices especially with consumer advocacy groups.
- vii) Assess the risk of political interference and regulatory capture amongst national regulators through a comparative look at the level of operational and decision making process independence
- viii) Determine best practices and develop recommendations to be adopted to improve regional regulation especially by younger regulatory bodies.

4.2 *Component B – Market Operators*

- i) To develop the mechanism for classification/categorization of market operators throughout the different phases of the market development from its present state to a liberalized one;
- ii) Review the performance of structurally comparable operators like vertically integrated State owned utilities with unbundled utilities (e.g labour productivity etc)
- iii) Analyse the performance Independent Power Producers (IPPs) especially in relation to market structure and incumbent efficiency.
- iv) Establish the quality of service and performance of transmission system operators for both national and cross-border entities.

6.3 *EXPECTED OUTCOMES*

The Consultant is expected to produce an in-depth and comprehensive report, benchmarking several indicators amongst national regulators and operators. It is hoped that the findings of the Benchmarking Report would be presented at a joint Regulators’ and Operators’ consultative committee meeting to be organised by ERERA.

6.4 *PERFORMING THE ASSIGNMENT*

The approximate effort level of the assignment is six (6) months.

The consultant must be able to hold consultations with ERERA and with other stakeholders (national regulators, power companies or other ECOWAS institutions) for the preparation of all the deliverables and for the necessary information and data assessment.

6.5 *REPORTING*

The Consultant shall prepare and submit to ERERA print copies of the reports listed below in both English and French. Electronic copies of the same reports (in both English and French) shall also be submitted. The reporting schedule as of the date of signature of the award contract shall also be as indicated in the Table below:

Table 1: Reporting Schedule

Title of Report	Description	Number of copies	Submission date
Inception Report	This report will define the scope and schedule of the assignment, present a detailed questionnaire of information needed for the study, deployment of	3 English + 5 French print	2 weeks after contract signature

Title of Report	Description	Number of copies	Submission date
	<p>consultant's staff, initial challenges that will affect the consultant's assignment and provide an outline of any suggested mitigating measures, proposed methodology and a work-plan, Identification of which countries would be visited and stakeholder communications support and feedback management bearing in mind the timeline of the Reporting Schedule described in this table.</p> <p>*All proposal would have to be agreed with ERERA and the Consultant shall also present this report and the work plan at ERERA's 3rd Forum on mid November in Dakar.</p>	<p>copies</p> <p>1 electronic copy in English</p> <p>1 electronic copy in French</p>	
Baseline Report	<p>An account of the baseline situation of the electricity market and state of regulation in the ECOWAS region. Present preliminary results of compilation of technical and financial indicators obtained from the surveys.</p> <p>Outline challenges in acquisition of relevant data. Presentation of outcome of consultation with stakeholders met so far, highlighting gaps between current practices and best regulatory practices. Recommendation of future direction of the study according to the work-plan and objectives</p>	<p>3 English + 5 French print copies</p> <p>1 electronic copy in English</p> <p>1 electronic copy in French</p>	3 months after submission of Inception Report
Draft Report	<p>This report should be highly analytical with several comparative assessments of different performance indicators, financial and technical information</p>	<p>3 English + 5 French print copies</p> <p>1 electronic copy in English</p> <p>1 electronic copy in French</p>	1 month after the submission of the Baseline Report
Presentation at a 2-day workshop.	<p>Present main findings of the study and illustrate current trends and regional best practices 'what works locally'</p> <p>Recommendations would be discussed with participants and comments taken</p>	<p>Can be held in any member country</p>	1 month after the submission of the Draft Report
Final Report	<p>Should capture or incorporate as much as possible comments from the workshop.</p>	<p>10 English + 10 French print copies</p> <p>1 electronic copy in English</p>	1 month after the workshop

Title of Report	Description	Number of copies	Submission date
		1 electronic copy in French	

6.6 EXPERTS QUALIFICATION

The consultant would be expected to present a team with legal, engineering, financial and economic expertise. The team should have a proven experience on the following field:

- i) At least 15 years professional experience in the field of energy with responsibilities in financial or technical monitoring of corporate affairs.
- ii) At least 5 years experience in the field of utility regulation. Strong knowledge of IPP frameworks and electricity sector markets.
- iii) At least 10 years experience the power industry. Experience in implementing power projects and knowledge of the ECOWAS electricity market would be an added advantage
- iv) At least 5 years of experience in corporate law or legal drafting. Professional experience in compliance monitoring and strong research skills would be an advantage.
- v) Reference in similar projects required
- vi) Fluency in English or French (fluency in both is an added advantage).

The Consultant will be required to be in Accra for submissions of Deliverables (Reports) and all the meetings, and whenever the need arises.

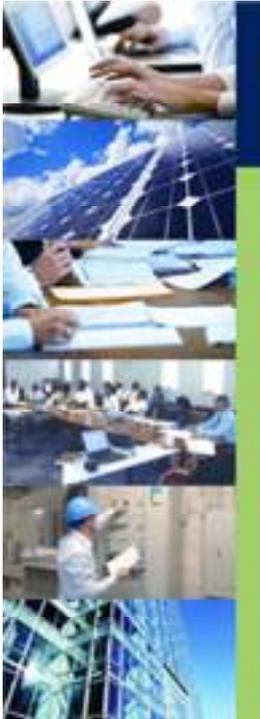
The selection of the Consultant will follow the consultancy procurement procedures of AFD and ECOWAS.

APPENDIX 2 – FINAL REVISED WORK SCHEDULE

Contract
Signature 29-Nov

Lot	Activity	Inception Report	Monthly Activity Reports		Base-line Report	Interim Reports			Draft Assessment	Final Assessment	Training Needs	Draft Final	Workshop	Presentations		Final Report	
			1*	2*		Strategy	Inventory	Organisational						Consultative Committee	Other		
1	1	14-Dec	07-Jan	07-Feb								22-Mar		26-Apr		26-Apr	
	2									28-Jan		22-Mar		08-Apr		26-Apr	
2	3					21-Jan	08-Mar	22-Mar							26-Apr		26-Apr
	4		07-Jan	07-Feb					08-Mar	22-Mar				18-Mar	08-Apr		21-Apr
	5		07-Jan	07-Feb									08-Mar	18-Mar	08-Apr		12-Apr
	6				27-Feb								01-Apr		26-Apr		10-May

APPENDIX 3 – PRESENTATION GIVEN IN DAKAR



REGULATORY STUDIES – LOTS 1 AND 2

ECOWAS Regional Electricity Regulatory
Authority

Dakar, 22 November 2012

SUMMARY

- 1) The Consortium
- 2) Main Issues arising from ERERA regulatory studies
- 3) Objectives
- 4) A multidisciplinary team
- 5) Organisation of the study and programme of work

THE CONSORTIUM

Consortium Artelia-PPA Energy

- Artelia :
 - Merger of COTEBA and SOGREAH, with high level of technical expertise related to electricity transmission
 - ICEA , a unit integrated into SOGREAH in 2009 , specialises in the management and regulation of public utilities (energy, water, telecommunications). Extensive experience of regulation of the telecommunications sector, particularly in Africa
- PPA Energy
 - Founded in 1996, with 15 years of experience of studies and consulting related to the power sector
 - International profile, with experience in Europe, Asia, South America and the Caribbean and particularly Africa
 - An excellent knowledge of regulation in the sector, particularly in Eastern and Southern Africa with substantive experience of working for the Southern African Power Pool (SAPP)
 - A strong group of experts in regulation including local African expertise including from Ghana



MAIN ISSUES RELATED TO THE ERETA REGULATORY STUDIES

- 1) **The usefulness of the results of the study to ERETA through**
 - The design of tools for operational control, which will give improved control of the sector by ERETA
 - An improved knowledge of the market and the main players, allowing more informed decision making
- 2) **The applicability of the results in the context of the diversity of national contexts**
- 3) **The visibility of the results of the study**
 - The quality of the studies and their applicability to the sector
 - The relevance and acceptance of the results
- 4) **Coordination with other significant stakeholders and parties throughout the studies**



MAIN OBJECTIVES OF THE STUDIES

- 1) The development of tools for regional operational regulation by ERERA through the creation of rules for third party access to the network, a tariff methodology for cross-border energy trade and wheeling, and the drafting of model contract for the exchange of energy,
- 2) Definition of a clear roadmap for the development of regulation in the coming years (2013 -2017) and a plan for capacity building to support national regulators, ministries and WAPP in defining and implementing regulation by ERERA,
- 3) The deepening of market knowledge and performance of regulators of the region

MAIN OBJECTIVES OF THE STUDIES

But also

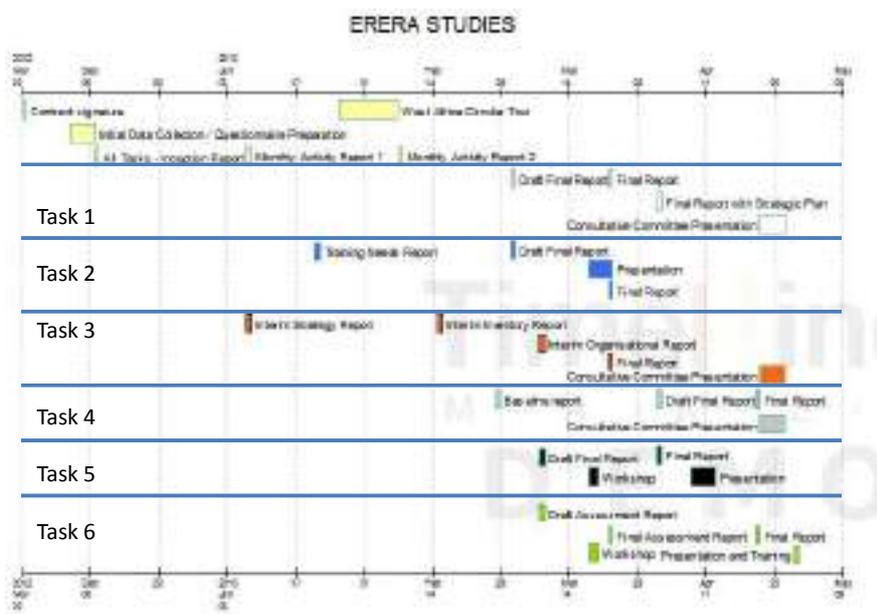
- 1) The provision of clear documentation to ERERA including regular exchanges with the consultant, with guidance as to the development of the necessary consensus as to the adoption of the rules
- 2) Allow ERERA to prepare texts for approval by the Council of Ministers of ECOWAS

THE ORGANISATION OF THE STUDIES AND PROGRAMME OF WORK

Optimisation of the phasing of the work and information gathering:

- Start scheduled for early December, after contract
- Initial phase of information gathering through:
 - Dispatch to relevant parties within each country of a questionnaire optimised across all studies: with the expectation of a quick turn around in the form of electronic responses and / or couriered documentation from the regulators, ministries, operators
 - A circular tour to follow up, covering approximately 6 countries to be defined later, covering 6 studies
- Grouping of workshops planned over the same period
- Grouping of the presentations to be made to the Advisory Committee over a single period (A1, A3, A6)

THE ORGANISATION OF THE STUDIES AND PROGRAMME OF WORK



A MULTIDISCIPLINARY TEAM

Management and coordination of the studies:

- A single director for all activities
- A bilingual project management

Availability within the study team of the multidisciplinary skills needed to meet the requirements of 6 studies:

- Key experts shared by two lots
- A support team of senior consultants comprising engineers, economists, financial experts, and regulatory experts
- A local coordinator, with expert regulatory expertise



EXPECTED RESULTS

Comments:

- Programme compressed relative to the initial schedule
 - (eg 5 months for study 6 instead of 6 months)
- The importance of control of the gathering information phase to meet deadlines
- The importance of the availability and accuracy of data to ensure the quality of results





THANK YOU

Contact : Marie d'ARIFAT
ARTELIA Ville & Transport Département ICEA
50 avenue Daumesnil
75579 Paris Cedex 12- France
Tél. : +33 (0)1 48 74 04 04
Fax : +33 (0)1 48 74 04 35
icea.paris@arteliagroup.com



Contact : Neil PINTO
PPA Energy
1 Frederick Sanger Road
Guildford GU2 7YD, UK
Tel: +44 1483 544944
Fax: +44 1483 544955
marketing@ppaenergy.co.uk



APPENDIX 4 – COUNTRY CONTACTS

<u>COUNTRY</u>	<u>INSTITUTION</u>	<u>NAME & SURNAME</u>	<u>TELEPHONE</u>	<u>E-MAIL</u>	<u>ALTERNATIVE E-MAIL</u>
BENIN	MINISTERE DE LENERGIE	AHMAN DAKEHOUN	22995228575	dakassa@yahoo.fr	
BURKINA	ARSE SONABEL	NIKIEMA MARIAM SERME DANIEL	45320737551 22670200084	riamniki@yahoo.fr daniel.serme@sonabel.bf	
COTE D'IVOIRE	ANARE	SORO NAPIAN	22520206010	hsoro@anare.ci	
GAMBIA	NAWEC PURA	DEMBA JALLOW SOMPO CEESEY	2209962609 2209917010	dembajallow@hotmail.com See@pura.gm	
GHANA	ENERGY COMMISSION	OSCAR AMONOO-NEIZER	233208178966	oscaraneizer@energycom.gov.gh	
GUINEA BISSAU	MRN ENERGIA / S.E. ENERGIA	MARIO ADAO CARIOS ALMEIDA	2456644347	almeidamaria_1959@yahoo.com	
GUINEE	EDG	KALIL TRAORE	22462622180	Kaliltraore76@yahoo.com	
MALI	CREE	OUMAR BERTHE	22376434522	oumarb@creemali.org	
NIGER	ARM	MAMAN MOUSSA	22796969007	mamanmoussa@yahoo.fr	
NIGERIA	NERC	ADA OZOEMANA	4696143837817	aozoenena@nercng.org ada_ozoenena@yahoo.com	
SENEGAL	SENELEC CRSE	NDIAME MAME AYMEROU DIALLO BABA	221774501654 443114935446	aymerou.ndiaye@senelec.sn bdiallo@crse.sn	baba_diallo@hotmail.com
TOGO	CEET ARSE	TCHA POU KOSSI NEGBEGBLE YAWOVI	22890224352 22890090312	kossitchapoug@ceet.tg elishaneg@yahoo.fr	

Note : this list is provisional only, with some countries missing. It is to be completed by ERERA



APPENDIX 5 - QUESTIONNAIRE

ECOWAS Regional Electricity Regulatory Authority

ERERA



**Regulatory Studies
Lots 1 & 2**

Questionnaire and data collection

DECEMBER 2012

DOCUMENTS REQUIRED IN ADDITION TO THE ANSWERS TO THE QUESTIONNAIRE

If possible, provide documents in electronic format or provide the Internet address where you can download them. Failing, provide a hard copy.

1. Last available activity report of the Regulatory Agency (RA)
2. The organisational chart of the RA if it exists, and the organisational chart of the Ministry in charge of electricity
3. Budget of the organization in charge of regulation distinguishing, if possible, different funding sources: Licensing, levy, government allocation, fines and penalties received loans and grants from international organizations, regulatory fees paid by companies sector, financial income ...)
4. Laws and regulations governing the electricity sector into force: Please complete the attached table and identify any updates [to be completed by a specific table for each country]
5. Draft laws, regulations or decisions being developed
6. Licenses, specifications, concession agreements active in the sector
7. Regulation Decisions issued by the regulator in the last three years
8. The list of public consultations conducted by the regulator, as well as the number of contributions
9. The last annual report of the companies involved in the sector
10. The organisation chart of the sector and its description
11. Recent literature on the evaluation of the electric sector and / or regulator issued by the Government, professional associations or NGOs
12. The pricing of utilities in charge of distribution/ transport and tariffs rules
13. A description of modes of metering the BT electricity
 - a. Characteristics of metering and télécomptages des clients HT
 - b. Characteristics of metering and télécomptages des clients MT
14. A description of the current situation of national control center, in particular date of service and date of last upgrading of SCADA, SCADA scope, list of main features of the SCADA and EMS
15. Network code (Grid Code) if there is one
16. The distribution code if there is one
17. Bilateral contracts and contracts for wholesale in force.
18. Contracts access / use of the transport network or cross-border interconnections
19. A copy of any recent report on the following topics:
 - a. Rates, cost reference, tariff study
 - b. Study on sector reform and / or national operator restructuring
 - c. Study about the regulation
 - d. Study on power sector development plan
 - e. Studies on the interconnection
 - f. Review of termination rates
 - g. Studies about prices of transport / transit
20. When the free market is limited, provide:
 - a. Diagram of the current organisation of the sector, with its regulated and free segments, including existing market operators
 - b. The operating rules of the free market
 - c. Organization / rules governing the operation of the system and the collaboration of the free market with the regulated market (system operator, market operator, rules for the equilibrium, rules for the provision of ancillary services, ...)
21. If they exist, provide the texts defining the methodologies used to:
 - a. Set tariffs of the regulated market
 - b. Fix transportation rates
 - c. Fix Distribution rates

Answer Yes, No, N/A (not applicable), or D/K (don't know), or note a checkmark and add explanation where appropriate. If necessary, note a checkmark and add the necessary explanations (or references) at bottom of the document.

GENERAL REGULATORY FRAMEWORK: LEGAL FRAMEWORK - INSTITUTIONAL STRUCTURE

1. Name of Country :
2. Details of person in charge of information collect
 - a. Name :
 - b. Function :
 - c. Company/Organisation :
 - d. Phone :
 - e. Email address :
3. What government body (s) has the primary legal responsibility for economic regulation (e.g., tariff setting, quality of service, consumer protection, investment, promotion of competition) of the sector?
.....

Is the body (s):

a. An independent/autonomous regulatory agency?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
b. A regulatory agency within ministry?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
c. An independent advisory agency reporting to minister?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
d. The minister/ministry?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
e. Others?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____

If yes, specify:

In what year was the regulatory agency established:

f. If there is no independent regulatory agency or advisory agency (i.e., unless answer of Yes to either 3[a] or 3[b] above), is there an infrastructure concession or franchise contract for monitoring and enforcement or a similar "quasi-regulatory" body
Yes No N/A D/K ____
4. If the response to Q3 is (b) or (c), which Government Ministry has responsibility for the regulator?
 - a. Energy Ministry
 - b. Finance Ministry
 - c. Others (Specify)
5. Does the agency/ministry derive its legal authority to carry out economic regulation from:

a. Constitution	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
b. Law or Statute	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
c. Decree	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
d. Contract	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
e. Combination of the above?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____
f. None of the above (if Yes, explain)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ____

In what year was the law or decree, etc., enacted?

In what year was the law or decree, etc., last amended?

Is there a sector law (e.g., electricity, telecommunications) separate from any regulatory law?
Yes No N/A D/K ____

If, so, in what year was the sector law enacted?
6. Indicate what percentage of the regulatory agency's budget comes from the following sources and since when:

Financing sources	Share in the total Agency's budget in 2011 (%)	Year since when this contribution is enforced
Government Budget		
Identified payment by regulated entities (e.g. license fees)		
Identifiable payment by consumers (e.g. specific fees or taxes)		
Other (Explain)		

How are these percentages obtained?

- a. From a published source? (If Yes, name the source) Yes No N/A D/K ___
 b. Estimated? (If Yes, indicate source of estimate) Yes No N/A D/K ___

Are regulatory funds:

- a. Legally earmarked for use only by the agency Yes No N/A D/K ___
 b. Are they subject to government reallocation? Yes No N/A D/K ___

7. Is the regulatory agency headed by

- a. A single person (e.g., director general/president)? Yes No N/A D/K ___
 b. Multimember body (e.g., 3–5 regulatory commissioners)
 If so, member's number: _____
 c. Others (Explain) Yes No N/A D/K ___

8. Who is legally responsible for appointing the head(s) of the regulatory agency? (mark one or more in the case of shared legal responsibilities)

- a. President/head of state Yes No N/A D/K ___
 b. Cabinet Yes No N/A D/K ___
 c. Prime minister Yes No N/A D/K ___
 d. Departmental minister Yes No N/A D/K ___
 e. Legislature Yes No N/A D/K ___
 f. Others (Explain) Yes No N/A D/K ___

Under the law, are these appointments subject to approval by?

- a. Legislature Yes No N/A D/K ___
 b. Others body (Explain) Yes No N/A D/K ___

9. Under the law, are regulatory agency head(s) appointed for:

- a. Fixed terms? (if Yes, specify length of term) Length : _____ Yes No N/A D/K ___
 b. Indefinite periods? Yes No N/A D/K ___
 (if Yes, specify at whose discretion the appointment is terminated) : _____

If terms are fixed, are they:

- The same term as the period between elections? Yes No N/A D/K ___

Are regulatory agency head(s) limited in the number of terms they are permitted to serve?

- Yes No N/A D/K ___
 If Yes, specify the maximum number of terms: _____

For regulatory agencies with 3, 5, or more commissioners, indicate whether their terms of office are:

- a. Staggered and overlapping Yes No N/A D/K ___
 b. Common, so that they all begin and end together: Yes No N/A D/K ___

10. Under the law, are regulatory agency head(s) subject to dismissal (within terms if terms are fixed)?

- Yes No N/A D/K ___

If Yes:

- a. Without Specific causes Yes No N/A D/K ____
- b. For specified causes Yes No N/A D/K ____

If Yes, specify those causes:

.....

Under the law, indicate who has the power to remove regulatory agency head(s):

.....

If removal can be made only for specific causes, under the law, do the causes have to be proved before the agency head(s) can be removed? Yes No N/A D/K ____

If Yes, is an independent investigation required? Yes No N/A D/K ____

If Yes, identify who is identified in the law to carry out the investigation:

11. For fixed-term regulatory appointments, how many times in the past 5 years have agency head or regulatory commissioners served less than a complete term?

For non-fixed-term appointments, how many times in the past 5 years have agency head or regulatory commissioners served less than 5 years:

12. Under the law, how are the pay scales of regulatory staff in the agency established (excluding directors/commissioners, etc.)?

- a. According to civil service pay scales/rules Yes No N/A D/K ____
- b. Regulatory agency discretion Yes No N/A D/K ____
- c. Others (Specify)

Under the law, is the regulatory agency free to make its own personnel decisions (e.g., hire, fire, promote, discipline)? Yes No N/A D/K ____

13. How many staff are employed in electricity regulation (independent agency or ministry):

How many of the staff are professional (e.g., lawyers, economists, accountants, engineers)?

How many of the staff are support staff (e.g., secretaries, administrative personnel, drivers)?

What percentage of the staff is

- Permanent:%
- Temporary:%
- On fixed contract:%
- Seconded from Ministry:%
- Seconded from regulatory company:%

Is there an organisational chart for the agency (If Yes, attach a copy)? Yes No N/A D/K ____

If No, list main departments/branches of agency with staff numbers in each, if available:

Service	Number of staff

14. If there is an independent regulatory agency (i.e., Yes to Question 3[a]), does it regulate only the power sector?
 Yes No N/A D/K ____

If No, what other sectors does it regulate?

.....

What percentage of staff effort is dedicated to the power sector?

15. Who (subject to appeal) has the legal responsibility for making decisions on the following issues?

	<i>Regulatory agency</i>	<i>Ministry</i>	<i>Company/ enterprise (identify which company/ enterprise)</i>	<i>Other (identify); (identify "no one identifiable" as N/A)</i>
Tariff structure				
Tariff level				
Service quality				
Consumer complaints				
Sector expansion plans				
Investment plans/decisions				
Wholesale market structure				
Anti-competitive behaviour				
Merger/acquisition reviews				
Technical and safety standards				
Licencing				
Approval/validation of bilateral contracts for selling or buying electricity				
Approval/validation of contracts for access/uses of transmission facilities				

16. Who is in charge of following activities :

	In charge of implementation	In charge of approval	Date of last update
Long term planning : Demand evolution, generation and development of national interconnected grid ...			
Periodic update of demand and grid (transmission and distribution) development actualisation			
Regular periodic of generation and transmission plan			
Annual planning of operations (generation + transmission) What are the used tools			
Short term operations planning (weekly and daily)			
Main planning tools available and used by National Control Center			

17. Is there a legally defined process for appealing regulatory decisions?

Yes No N/A D/K ____

If Yes, indicate by whom appeals are considered:

Under the law, can parties appeal :

On all matters, including the substance of decisions,

Yes No N/A D/K ____

If appeals are limited, explain limitations on appeals:

.....

Under the law, are there limits on who may seek appeals (e.g., regulated companies, consumer agency)?

Yes No N/A D/K ____

If Yes, identify or explain:

.....

18. Does the regulatory agency publish an annual report on its activities? Yes No N/A D/K ____

If Yes, how many annual reports have been published in the past 5 years?

.....

Does the regulatory agency publish audited accounts?

Yes No N/A D/K ____

Who audits the accounts?

- a. International accounting firm
- b. Local accounting firm
- c. Internal audit facility
- d. Government audit office
- e. Other (Specify)

Yes No N/A D/K ____

.....

Does the regulatory agency publicly answer questions from the legislature (e.g., from a parliamentary committee)?

Yes No N/A D/K ____

ORGANISATION AND UNBUNDLING IN ELECTRICITY UTILITIES

21. Which of the following market models describes the power sector in your country?
 Vertically integrated monopoly Yes No N/A D/K ___
 Single buyer market Yes No N/A D/K ___
 Wholesale competition Yes No N/A D/K ___
 Supply/Retail competition Yes No N/A D/K ___
22. Please indicate the years the following reform measures were first initiated in your country?
 Regulator established:
 Privatisation total/partial:
 Vertical Separation:
 Entry of new private power producers:
 Wholesale power market (pool, contract, spot, etc.):
23. What is the level of vertical integration between the different elements of electricity value chain (generation, transmission, distribution, and retail)?
 Different legal companies
 Different business units within a single company, with profit responsibility for each unit and with transparent transfer pricing on a commercial basis between units
 Different business units within a single company with responsibility for costs
 Different business units each with their own accounts
 No separation
24. If there is delegated management contract, specify which elements of the supply industry are covered:

	Contract Y/N	Type of contract (Management Contract Lease-Affermage Concession ...)	Length of contracts (years)
Generation			
Transmission			
Distribution			

25. Is the transmission owner is the same as the transmission operator? Yes No N/A D/K ___
26. Can a single company participate in different activities within the value chain (please indicate allowable combinations)

Allowable combinations	Generation	Transmission	Distribution	Retail
1				
2				
3				
4				
5				
6				
7				

27. Are distribution companies allocated a franchise area over which they have sole responsibility for the provision of distribution infrastructure? Yes No N/A D/K ___
28. Are there restrictions on the maximum market share of generation and retail supply companies? Yes No N/A D/K ___

If Yes,specify:

.....

29. Are there any constraints in the number of operators in Generation? Yes No N/A D/K ___
 If Yes, specify:

30. Self-Generation
 Do autoproducers exist, with connection to the national or regional HV grid? Yes No N/A D/K ___
 If so, what is the total installed capacity?
- Number of autoproducers without interconnection to a transmission grid:
 What is the installed capacity?
31. Do rule(s) exist to manage requests from generators for connection to the grid (transmission/distribution)? Yes No N/A D/K ___
 If so, who has responsibility for the definition, modification and approval of these?

32. Do contracts exist for access to the grid (transmission/distribution) Yes No N/A D/K ___
 If so, who has responsibility for the definition, modification and approval of these?

33. Do specific rules exist to allow access to cross border interconnections Yes No N/A D/K ___
 If so, who has responsibility for the definition, modification and approval of these?

34. What are the trade arrangements between autoproducers and the network?

35. In the case of vertically integrated companies, how are the relationships between the different parts of the company managed?
 Real, transparent and cost reflective contracts for sale / purchase Yes No N/A D/K ___
 Nominal non cost reflective contracts Yes No N/A D/K ___
 (in case of vertically integrated companies)
 No contract : Yes No N/A D/K ___
 Others (specify) :
36. Please fill in the following sector information

	At the Time of Reform (In case of no reform, please enter information for 2007)		In 2011	
	Number of Companies	Cumulative Investments during the 5 years before the Reform or between 2002 and 2007 if no reform (local currency)	Number of Companies	Cumulative Investments between the reform and end 2011 or between 2007 and 2011 if no reform (local currency)
Generation				
Transmission				
Distribution				

	At the Time of Reform (In case of no reform, please enter information for 2007)		In 2011	
	Number of Companies	Cumulative Investments during the 5 years before the Reform or between 2002 and 2007 if no reform (local currency)	Number of Companies	Cumulative Investments between the reform and end 2011 or between 2007 and 2011 if no reform (local currency)
Retail				
Total				

37. Organisation of Transmission activity

Does an interconnected national grid exist Yes No N/A D/K ___
 If so,
 What are the voltages used:
 Is the national control centre managed? Yes No N/A D/K ___
 What are the criteria to define the border between transmission and distribution?

Do regional transmission grids exist? Yes No N/A D/K ___
 If so:
 Are they managed by the National Control Centre Yes No N/A D/K ___
 What are their voltages?

Do independent network exist separate from National Grid? Yes No N/A D/K ___
 If so, what are their voltages?

38. Organisation of distribution activity?

Number of independent companies supplied by the national grid:

What is the average voltage used in MV distribution:

Number of companies for regional/local distribution independent of the Interconnected Grid

39. Have the public (e.g., central government, state-owned, municipal, etc.) company(ies) been corporatised? Yes No N/A D/K ___

If Yes, what legal form has been chosen?
 Public Company Yes No N/A D/K ___
 Limited Company with 100% public shareholder Yes No N/A D/K ___
 Others (Specify)

40. Are consumers allowed to choose among electricity suppliers? Yes No N/A D/K ___

41. Is there a customer size threshold (e.g., kW/kWh) for free consumer choice? Yes No N/A D/K ___

If Yes, specify for 2011:

Customer Type	Power (MW) and annual consumption (MWh) of potentially eligible consumers	Percent of Total Consumption in this customer category	Number of eligible customers	Number of customers who have changed their supplier since market opening
Industrial				

Customer Type	Power (MW) and annual consumption (MWh) of potentially eligible consumers	Percent of Total Consumption in this customer category	Number of eligible customers	Number of customers who have changed their supplier since market opening
Commercial				
Residential				

42. Detail of demands by Consumers with direct contracts

	Number / Contracted Power (MVA)		Consumption (MWh)		Revenues (national currency)	
	2010	2011	2010	2011	2010	2011
HV (1) Client 1 (with Name) Client 2 id						
MV All customers with MD > 5MW (2) All customers with MD > 2MW (3)						
LV						
Total (4) All customers with MD > 5MW (5)=(1+2)/4 All customers with MD > 2MW (6)=(1+2+3)/4						

TARIFF METHODOLOGY

43. Are the following end-user prices regulated?
 Electricity prices for industry? Yes No N/A D/K ___
 Commercial electricity prices? Yes No N/A D/K ___
 Electricity prices for households? Yes No N/A D/K ___

Please fill the following table with "F" if the entity "Fixes" the tariff and "A" if it "Approves" it

Price	Regulator	Minister	Parliament	Non-Regulated
Industrial and commercial				
Residential				

44. Does a power market exist? Yes No N/A D/K ___
 If Yes, specify:
 Bilateral contracts Yes No N/A D/K ___
 Spot market Yes No N/A D/K ___
 Pool Yes No N/A D/K ___
 Forward market Yes No N/A D/K ___
 Balancing market Yes No N/A D/K ___

Is participation in the wholesale markets mandatory? Yes No N/A D/K ___

If so, in what type of market?

.....

45. What is the method for price control for the following (Please provide documentation)
 Transmission tariffs
 Revenue-cap Yes No N/A D/K ___
 Price cap Yes No N/A D/K ___
 Rate of return Yes No N/A D/K ___
 None Yes No N/A D/K ___
 Others Please Specify

- Distribution tariffs
 Revenue-cap Yes No N/A D/K ___
 Price cap Yes No N/A D/K ___
 Rate of return Yes No N/A D/K ___
 None Yes No N/A D/K ___
 Others Please Specify

46. If tariffs are based on the calculation of marginal costs, please provide a copy of the latest price calculations for marginal / incremental costs for generation, transmission and distribution on the Interconnected Network to guide the estimation of transmission and distribution tariffs.

47. Describe the mechanism for subsidising activities outside Interconnected Network by operations / operators Interconnected Network and quantify the mechanism.

.....

48. How long (in terms of years) is the period between price reviews?

49. Does the government subsidise the costs of electricity generation? Yes No N/A D/K ____

If so, which?

50. Are prices for any consumer groups subsidised? Yes No N/A D/K ____
 If so, which prices?

Residential Yes No N/A D/K ____
 Commercial Yes No N/A D/K ____
 Industrial Yes No N/A D/K ____

What are the sources of the subsidies?
 Government budget Yes No N/A D/K ____
 Industry levies Yes No N/A D/K ____
 Internal Cross-subsidies Yes No N/A D/K ____
 Others

51. Evolution of average electricity prices for regulated customers

	At the date of the reform (If no reform please provide 2007 data)	In 2011
	Local currency/kWh	Local currency /kWh
Residential		
Commercial		
Industry		

52. Please provide details of the mechanism for the setting of end customer tariffs with an indication of the process which is followed, how frequently it is undertaken, the level of transparency, the approval process etc.?

.....

53. What were the dates and average values of the last three tariff increases?

	Date	Average increase (%)
Most recent increase		
Previous increase		
Previous increase		

54. When was the last cost of service study completed and what are the main conclusions? (Please provide a copy if available)

.....
.....
.....

55. Is there an incentive within the tariff mechanism for a reduction in the level of technical and non technical losses? Yes No N/A D/K ___

If yes please provide details:

.....
.....
.....
.....
.....
.....

56. Are current electricity tariffs sufficient to ensure an adequate return? Yes No N/A D/K ___
Please provide additional details as appropriate:

.....
.....
.....
.....
.....
.....

57. Is there an acceptable Return on Equity for public and private companies operating in the electricity sector? Yes No N/A D/K ___

If yes please provide details:

.....
.....
.....
.....
.....
.....

58. Are the tariffs revised to reflect changes in exchange rates / fuel prices / the availability of hydro energy? Yes No N/A D/K ___

If yes please provide details as to calculation / indexation formula:

.....
.....
.....
.....
.....
.....

59. Do the tariffs include an explicit level of cross subsidy? Yes No N/A D/K ___

If yes please provide details including explanation of which tariff groups are the beneficiaries, how the cross subsidy is calculated:

.....
.....
.....
.....
.....
.....
.....

60. If an analytical accounting system exists, provide the results of calculation of unit costs (in national currency per kWh) related to:
- a. Generation (fixed and variable O&M)
 - b. Fuel and other external purchases
 - c. Transmission including dispatch
 - d. Distribution and retail (both excluding and including losses)

STAKEHOLDER CONSULTATION

61. Can your agency compel utilities to provide financial and performance information? Yes No N/A D/K ___

Is there a standardised reporting format for financial/performance information? Yes No N/A D/K ___

If so, please provide it.

Is the financial/performance information audited? Yes No N/A D/K ___

If so, by?

Regulator	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Independent Auditors	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Others (Specify)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___

Does the regulator make financial and performance information publicly available? Yes No N/A D/K ___

62. Is there a consultation process prior to regulatory decisions? Yes No N/A D/K ___

If so, what type?

Hearings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Meetings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Others (specify)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___

Who have the right to participate in regulatory proceedings? Yes No N/A D/K ___

Consumer groups	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Utilities	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Industry association	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Others (Specify)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___

63. Are regulatory meetings open to the public in practice? Yes No N/A D/K ___

In whole	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
In part	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___
Not at all	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> D/K <input type="checkbox"/> ___

Are regulatory meetings required to be open to the public by law? Yes No N/A D/K ___

64. Are regulatory determinations publicly available? Yes No N/A D/K ___

Does the law require the regulator to publish determinations? Yes No N/A D/K ___

If so, where?

Does the regulator publish explanations of decisions in practice? Yes No N/A D/K ___

If so, where?

65. How frequently are stakeholder consultation meetings held?

- a. Monthly
- b. Quarterly
- c. Six monthly
- d. Annually
- e. Not at all

f. Other (specify)

66. Who is invited to the meetings?

- a. Public Utilities
 - i. Generation
 - ii. Transmission
 - iii. Distribution
 - iv. Retail
- b. Government
- c. Large customers
- d. Private Utilities
 - i. Generation
 - ii. Other (specify)
- e. Commercial interests (specify)
- f. Small customers
- g. Others (specify)

67. Who is responsible for arranging and co-ordination of the consultation meetings:

Please specify:

.....

.....

68. Are the interests of smaller customers protected by?

- a. Special committees
- b. Separate meetings
- c. Not at all
- d. Other arrangements (please specify)

.....

.....

69. Are the interests of off grid customers protected by?

- a. Special committees
- b. Separate meetings
- c. Not at all
- d. Other arrangements (please specify)

.....

.....

TECHNICAL PERFORMANCE OF THE COMPANIES

70. What has been the level of technical and non technical losses per annum over last 5 years?

Year	Transmission (GWh)		Distribution (GWh)		Total Sales (GWh)
	Technical Losses	Non technical losses	Technical Losses	Non technical losses	
2012					
2011					
2010					
2009					
2008					

71. Please provide details of system performance per annum over last 5 years:

Year	Customer Average Interruption Duration Index (CAIDI)	Customer Average Interruption Frequency Index (CAIFI)	Customer minutes lost	Minutes system frequency outside technical standards	Unserviced energy (MWh)
2012					
2011					
2010					
2009					
2008					

72. Please provide details of energy generation (MWh) per annum over last 5 years, split between the following:

Year	Hydro	Diesel engines	Gas fired Gas Turbines	Gas fired CCGT	Liquid fired Gas Turbines	Coal fired steam	Oil fired steam	Other renewables	Imports (state country)
2012									
2011									
2010									
2009									
2008									

73. Please provide details of installed and available capacity (MW) per annum over last 5 years, split between the following:

Capacity		2008	2009	2010	2011	2012
Hydro	Installed					
	Available					
Diesel engines	Installed					
	Available					
Gas fired Gas Turbines	Installed					
	Available					
Gas fired CCGT	Installed					
	Available					
Liquid fired Gas Turbines	Installed					
	Available					

Capacity		2008	2009	2010	2011	2012
Coal fired steam	Installed					
	Available					
Oil fired steam	Installed					
	Available					
Renewable	Installed					
	Available					

74. Please provide following details of all Independent Power Plants (IPPs) in the country

Project Name	Installed capacity (MW)	Contracted capacity (MW)	Plant Type	Date of commissioning	Duration of contact (years)	Average annual availability (%)	Contract type*	Contractual Counterparty

* Build own operate (BOO) ; Build own operate transfer (BOOT), ...

75. Are details of the PPAs in the public domain? Yes No N/A D/K __

If yes please provide details as to calculation of the tariffs:

.....

76. Are fuel supply arrangements for the thermal IPPs known (ie who provides the fuel and how the cost recovered?) Yes No N/A D/K __

If yes please provide details as to calculation

.....

77. Are the financing arrangement for the IPPs public? Yes No N/A D/K __

If so what the debt / equity split for each?

.....

78. What is the assumed return on equity for the shareholders?

79. New capacity generation projects and forecasts for the next 4 years (please add additional lines if necessary)

	Installed capacity (MW)	Commissioning in 2013	Commissioning in 2014	Commissioning in 2015	Commissioning in 2016	Plant Type, number of plants, number of turbines, fuel
National Utility						
Type 1 (Specify)						
Type 2						
.....l						
IPP x						
Type 1						
Type 2						
IPP Y						
Type 1						
.....						
Total						

80. Supply/ Demand Balance, maximum demand, reserves and other data specific to the sector

	2010	2011	2012	2013	2014	2015
Installed capacity (MW)						
Available capacity (MW) (1)						
Maximum demand (MW) (2)						
Reserve margin (%) $((1-2)/1)$						
Total Energy sent out from national utilities + IPP + net imports (GWh)						
Sales for interconnected network (GWh)						
Net exports (GWh)						
Transmission + distribution losses (%)						
Annual growth rate for energy sales (%)						
Unserved Energy (% of sales)						
Transmission voltages (kV)						
Distribution voltages (kV)						
HV rate of interruption (number/100 km-year)						
HV average interruption duration (min)						
MV rate of interruption (number/100km-year)						
MV average interruption duration (min)						
Number of customers at HV						
MV						
LV						
Number of Customer awaiting connection at HV						
MV						
LV						
Average electricity price (local currency/kWh)						
EBITDA/ Revenue (%)						

MAIN UTILITY DATA**PLEASE DUPLICATE THIS SHEET FOR EACH COMPANY OF ELECTRICITY SECTOR**

COMPANY NAME : _____

81. Company Activities

- Generation
 Transmission
 Distribution
 Retail

82. Shareholders

- Public: _____ %
 Private: _____ %

83. Key data of the company in national currency (specify units : billions, millions ...):

	Units	2008	2009	2010	2011	2012*
General data						
Staff						
% managers						
If distribution						
Customer number						
Electricity sales (in MWh)						
If generation						
Installed capacity (MW)						
Available capacity (MW)						
Electricity Generation (GWh)						
If transmission						
Number of HV substations						
Cumulative transformer capacity (MVA) by voltage						

	Units	2008	2009	2010	2011	2012*
Transmission lengths by voltage						
Resources						
Total Revenue from electricity sales from (if relevant)						
Generation						
Transmission						
Distribution						
Subsidies						
Costs						
Fuel costs						
Staff costs						
Financing costs						
Customers debts						
Investments						
Generation Investments						
Transmission Investments						
Distribution Investments						

*Specify the number of quarters for 2012

TRANSMISSION PRICING

84. Does the country have a grid code? Yes No N/A D/K ___
 [cf question 15 – page 1]

Transmission Tariffs

Please provide relevant documents or specify the web site where they can be found

85. Are transmission tariffs calculated separately from energy tariffs? Yes No N/A D/K ___

If yes please provide details and methodology used:

.....

86. Do large consumers pay a separate connection charge? Yes No N/A D/K ___

If yes is the charge?

- a. based on all assets required to connect to the nearest substation Yes No N/A D/K ___
 b. or does utility share costs Yes No N/A D/K ___

87. Do large consumers pay a separate maximum demand charge (kW or kVA) that is separate from kWh charge? Yes No N/A
 D/K ___

If yes how is the kW / kVA charge calculated?

.....

88. Do large customers pay for reactive power (kVAr) that is separate from kWh charge? Yes No N/A D/K ___

If yes how is the kVAr charge calculated?

.....

89. On what basis are transmission assets valued:
 a. Purchase price, Yes No N/A D/K ___
 b. Value after depreciation Yes No N/A D/K ___
 c. Replacement costs Yes No N/A D/K ___
 d. Others (specify)

.....

90. If response to previous question is “Value after depreciation”, what period(s) is / (are) used to depreciate the asset? This might be different for different types of equipment?

Asset Type	Depreciation Period (years)

91. What interest rate is assumed for loans? If interest rate of return is based those from loan agreements what is the range of interest rates for transmission investments in the last 5 years?

	2008	2009	2010	2011	2012
%					

92. What is the average Weighted Average Cost of Capital (WACC) used for calculating allowable transmission charges (or general asset costs)?

- a. Who defines the WACC :
 - b. What is the methodology used? (or provide available documents)
-
-
-

93. Do the tariffs generate sufficient revenue for future asset purchases? Yes No N/A D/K ___

Transmission Revenue

94. Concerning transmission costs :
 a. Do generators pay a proportion of overall transmission costs Yes No N/A D/K ___
 b. Or are all transmission costs charged to the consumers Yes No N/A D/K ___

If generators pay a portion then:
 a. what is the portion?

b. how was it determined?

95. Are there different transmission charges for different locations in the network? Yes No N/A D/K ___

If yes, is the method based:
 On zones (groups of substations) in a particular area Yes No N/A D/K ___
 or is there a separate transmission price calculated for each substation (nodal pricing)?
 Yes No N/A D/K ___

Transmission Losses

96. Are transmission losses calculated separately to transmission infrastructure and primary energy charges? Yes No N/A D/K ___

If yes, what method is used to calculate losses (measured losses, predicted losses based on load flow studies, zonal loss factors, or nodal loss factors

.....

.....

.....

.....

.....

.....

Wheeling

97. Is wheeling on transmission networks allowable within the country (ie are independent power producers at one transmission substation allowed to sell power to independent consumers at another transmission substation)? Yes No N/A D/K ____

If yes, how are :

a. Transmission charges calculated?

.....

b. Transmission losses calculated?

.....

98. Can a consumer purchase power directly from a utility or generator in another country?

Yes No N/A D/K ____

If yes, how are

a. Transmission charges calculated?

.....

b. Transmission losses calculated?

.....

99. Can an independent generator sell directly to a utility or consumer in another country?

Yes No N/A D/K ____

If yes, how are

a. Transmission charges calculated?

.....

b. Transmission losses calculated?

.....

100. Is the utility purchasing power from a neighbouring country? Yes No N/A D/K ____

If yes:

a. Are there any transmission charges applicable for the transaction and how are these calculated?

.....

b. Are there any transmission loss charges applicable for the transaction and how are these calculated?

.....

c. How was the interconnector paid for and how are the costs recovered?

.....

101. Is the utility purchasing power from a non-neighbouring country (ie is power being wheeled through a third party country)? Yes No N/A D/K ____

If yes:

a. Are there any transmission charges applicable for the transaction in the wheeling country and how are these calculated

.....
.....
.....
.....

b. Are there any transmission loss charges applicable for the transaction in the wheeling country and how are these calculated?

.....

c. How was the interconnector or any strengthening in the third party country paid for and how are the costs recovered?

.....
.....
.....
.....

102. How are cross-subsidisation and/or over-recovery of costs for the third-country network avoided in calculating wheeling charges?

.....
.....

103. Does congestion exist on electric interconnection between the states members?

Yes No N/A D/K _

If yes, do rules exist to manage congestion?

Yes No N/A D/K _

Please provide details or forward a copy of the appropriate documentation:

.....
.....
.....
.....
.....
.....
.....
.....

CAPACITY BUILDING OF REGULATORY AUTHORITIES

(if the questionnaire is completed by a Ministry, read Ministry instead Agency)

104. Does the Agency have an annual training programme? Yes No N/A D/K _
105. If the agency is multi-sectoral, has it got an annual training programme specific to the electricity sector? Yes No N/A D/K _

If yes, what is the date of the last update? _____

If yes, please attach training programmes for the last three years the electricity sector

106. For specialists (economists, engineers, lawyers, accountants / financial experts) dedicated to the electricity sector, in what topics did they received training in the past three years?

Topics	Who organised the training?*	Number of trainings courses executed	Total Number of participants	Number of participants from the Regulator	Number of participants from the Ministry
1. Regulatory governance					
2. Electricity sector reform					
3. Electricity sector regulation (Role and powers of a Regulatory Authority)					
4. Tariff methodology (Tariff Setting and Rate Design issues)					
5. Aggregate technical, commercial and collection losses (ATC&C),					
6. Trading Arrangements and financial settlement systems					
7. Electricity Market Rules					
8. Licensing and Legal Aspects of Power Sector Regulation: Experiences and Enforcement Issues					
9. Dispute Resolution					
10. Demand Side Management and energy efficiency					
11. Open Access & Role of Load Dispatch Centre					
12. Electricity Markets; Network Issues					
13. Wholesale and Retail Markets					
14. Economics of Competitive Markets					
15. Consumer Protection					
16. Electricity Market Monitoring					
17. Renewable energy					
18. Financial modelling for the power sector					
19. Power Sector Project Finance					
20. Other (please specify)					

* It can be: Ministry, WAPP, Regulatory Authority, other (to be defined)

107. From the training programs undertaken, which (topics 1 to 19 or if another, please indicate)

Have provided a better overall understanding of regulation?

Helped deepen the overall knowledge base?

Have provided tools that can be implemented at the Authority / Ministry?

Led to modifications to existing procedures / creation of new procedures?

108. Did an assessment of the training take place?

- a. By the trainer : Yes No N/A D/K _
- b. By the participants : Yes No N/A D/K _
- c. By the supervisors of the participants: Yes No N/A D/K _

109. Please rank the following training topics for your organisation:

Topics	Importance	Priority
1. Regulatory governance		
2. Electricity sector reform		
3. Electricity sector regulation (Role and powers of a Regulatory authority)		
4. Tariff methodology (Tariff Setting and Rate Design issues)		
5. Aggregate technical, commercial and collection losses (ATC&C),		
6. Trading Arrangements and financial settlement systems		
7. Electricity Market Rules		
8. Licensing and Legal Aspects of Power Sector Regulation: Experiences and Enforcement Issues		
9. Dispute Resolution		
10. Demand Side Management and energy efficiency		
11. Open Access & Role of Load Dispatch Centre		
12. Electricity Markets; Network Issues		
13. Wholesale and Retail Markets		
14. Economics of Competitive Markets		
15. Consumer Protection		
16. Electricity Market Monitoring		
17. Renewable energy		
18. Financial modelling for the power sector		
19. Power Sector Project Finance		
20. Other (please specify)		

Note :

"Importance": Set to 1 if the training is seen as very important / useful, 2 if moderately important / useful, and 3 if it is perceived as not very important / useful

"Priority": Set to 1 if the training is perceived as very urgent, 2 if moderately urgent and 3 if not urgent.

Thus, some training may be perceived as very important (Economics of competitive markets) but not priority / urgent given the level of development of the domestic market

110. Are there other training topics relating to the regulation of the electricity sector you feel important? If yes, please list them:

.....

111. Does the Agency have an Internet access? Yes No N/A D/K _

112. Does the Agency have a web site Yes No N/A D/K _
 If so, provide the web site address

113. Do all the specialists (economists, engineers, lawyers, accountants / financial experts) dedicated to the electricity sector have Internet access? Yes No N/A D/K _

If yes to the previous question, what is the typical use of Internet?

- | | | | | |
|---|-----------------------------------|---|-------------------------------------|---------------------------------|
| Receiving / sending mails | All days <input type="checkbox"/> | 2-3 times/week <input type="checkbox"/> | once/week. <input type="checkbox"/> | rarely <input type="checkbox"/> |
| Searching various information | All days <input type="checkbox"/> | 2-3 times/week <input type="checkbox"/> | once/week. <input type="checkbox"/> | rarely <input type="checkbox"/> |
| Searching info. related to your prof. activities. | All days <input type="checkbox"/> | 2-3 times/week <input type="checkbox"/> | once/week. <input type="checkbox"/> | rarely <input type="checkbox"/> |
| Downloading docs > 500 kb | All days <input type="checkbox"/> | 2-3 times/week <input type="checkbox"/> | once/week. <input type="checkbox"/> | rarely <input type="checkbox"/> |